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JANUARY, 1853.

PROCEEDINGS OF THE NATIONAL PHARMACEUTICAL CONVENTION.*

HALL OF THE PHILADELPHIA COLLEGE OF PHARMACY,
October 6th, 1852, 4 *o'clock, P. M.*

In the absence of Dr. Guthrie, President of the Convention held last year, the Convention was called to order by Mr. A. B. Taylor, of Philadelphia, the Secretary. Mr. Coggeshall, of New York, informed the meeting that in a letter lately received from President Guthrie, dated at Louisville, he stated that circumstances had rendered his presence impossible, but that his best wishes would attend the Convention in its endeavors to elevate the profession.

On motion of Mr. Procter it was resolved, that Mr. Coggeshall, of New York, be appointed President *pro tempore*, Mr. Taylor acting as Secretary.

On motion it was resolved, that the President should appoint a Committee of three to examine the credentials of the delegates present. Whereupon, Messrs. Ellis, of Philadelphia, Colcord, of Boston, and Laidley, of Richmond, were commissioned to retire on that duty, and were also directed to report a resolution in reference to the druggists and apothecaries who were present with the desire of attending the Convention without being delegated.

*[Although a number of our subscribers have received copies of the proceedings of the Convention as published in pamphlet form by the Executive Committee, yet we deem it expedient to insert a full account of the transactions of the Convention as a permanent record of the progress of Pharmacy.—EDITOR.]

This Committee reported that satisfactory credentials of the appointment of the following gentlemen as delegates had been offered:

From the Massachusetts College of Phurmacy.—Joseph Burnett, Samuel M. Colcord, Dr. Samuel R. Philbrick.

From the College of Pharmacy of the City of New York.—George D. Coggeshall, L. S. Haskell, John Meakim.

From the Richmond Pharmaceutical Society.—Alexander Duval, John Purcell, Joseph Laidley.

From the Cincinnati College of Pharmacy.—William B. Chapman, Charles Augustus Smith, Edward S. Wayne.

From the Philadelphia College of Pharmacy.—Daniel B. Smith, Charles Ellis, William Procter, Jr.

From the Maryland College of Pharmacy.—Dr. David Stewart, George W. Andrews.

And, Henry F. Fish, of Waterbury, Connecticut, as the representative of the apothecaries and druggists of the cities of Hartford and Middletown, Connecticut.

The following resolution was also offered:

Resolved, That those gentlemen whose interest in the objects of the Convention has induced them to meet with us on this occasion, be invited to take seats in the Convention and fully participate in its proceedings.

Signed, C. Ellis, S. M. Colcord, Jos. Laidley, } *Committee.*

The Report, including the resolution, was adopted, and the Committee continued, to act on the claims of delegates or others not yet arrived.

On motion the roll was called, and the following delegates answered to their names:

Daniel B. Smith,	Joseph Laidley,
Charles Ellis,	David Stewart,
William Procter, Jr.	Charles Augustus Smith,
Joseph Burnett,	George D. Coggeshall,
Samuel M. Colcord,	Llewellyn S. Haskell,
Samuel R. Philbrick,	John Meakim,
Alexander Duval,	Henry S. Fish.

The following gentlemen were then invited to seats in the Convention, viz:

Charles L. Bache, of San Francisco, California.

Eugene Dupuy, of New York.

Edward Parrish, Alfred B. Taylor, } of Philadelphia.

On motion it was resolved, that a Committee of one from each delegation be appointed to nominate officers for the Convention, each delegation suggesting its representative.

Whereupon Mr. Procter, of Philadelphia, Dr. Philbrick, of Boston, Mr. Duval, of Richmond, Dr. Stewart of Baltimore, Mr. C. A. Smith, of Cincinnati, Mr. Meakim, of New York, Mr. Fish of Connecticut, were chosen.

The Committee retired, and after conferring together reported the following nominations:

Daniel B. Smith, of Philadelphia, for President.

George W. Andrews, of Baltimore,
Samuel M. Colcord, of Boston,
C. Augustus Smith, of Cincinnati, } for Vice Presidents.

George D. Coggeshall, of New York, for Recording Secretary.

Wm. Procter, Jr., of Philada., for Corresponding Secretary.

All of whom were duly elected, and the Committee discharged.

After the officers had taken their seats, the Committee appointed at the Convention held at New York, October, 1851, "to act as a Standing Committee, to collect such information as may be deemed valuable, together with memorials and suggestions from Medical and Pharmaceutical Associations, to be presented to the next Convention," made a Report, which was read and accepted.

[This Committee, consisting of Messrs. Procter, Coggeshall and Colcord, embraced suggestions in their report relative to nearly all the subjects brought forward in the Convention, and to some not reached by it, but the paper is too long for insertion in our pages at this time.—Editor.]

On motion of Mr. Coggeshall, it was resolved to appoint a Business Committee to consider the report just read, and to propose subjects for the consideration of the Convention as they may deem expedient, and report to the next sitting.

The President appointed William Procter, Jr., Joseph Burnett, Alexander Duval, Dr. David Stewart, Charles A. Smith, and L. S. Haskell.

On motion of Mr. Burnett, Henry F. Fish, and George D. Coggeshall were added to the Committee.

On motion of Mr. Procter it was resolved, that when the Convention adjourns, it shall adjourn to 10 o'clock, A. M. tomorrow.

On motion of Mr. Procter it was resolved, that all pharmaceutists who feel an interest in the proceedings of the Convention be invited to attend its deliberations.

On motion of Mr. Coggeshall it was resolved, that an invitation be tendered to professors George B. Wood, M. D., Franklin Bache, M. D., Joseph Carson, M. D., and to the Professors of the Philadelphia College of Pharmacy, to attend the sittings of this Convention.

The Convention then adjourned.

Second Sitting, Oct. 7th, 10 o'clock, A. M.

President in the Chair.

The roll was called and most of the delegates appeared in their seats.

The minutes of the last sitting were read and approved.

The Business Committee reported a draft of a Constitution in which they were united, except on the proposed second section, of which two drafts were presented, upon which the Committee were nearly equally divided, which was read. The Committee also reported the draft of a proposed Code of Ethics, which was read at this time as connected with the consideration of one of the drafts of the second section of the proposed Constitution.

The Committee on Credentials here reported in favor of J. B. H. Campbell, of Cumberland, Maryland, and Charles A. Heinitsh, of Lancaster, Pennsylvania, having seats in the Convention, which was on motion adopted, and the gentlemen introduced.

Professor Bridges, of the Philadelphia College Pharmacy, invited by the resolution of yesterday, was also introduced.

The convention then proceeded to consider the Constitution by sections, postponing the consideration of the preamble, on motion of Mr. Colcord, until after the consideration of the Code of Ethics.

The first section, relative to the name of the association, was read and laid on the table for the present.

The two drafts of the second section were then read as follows:

(1st draft) "Section II. The members of this association shall consist, firstly, of delegates from regularly organized Colleges, and Societies of Pharmacy within the United States; secondly, of delegates from the apothecaries and druggists of cities and towns where no organization exists, each of such delegates representing and presenting credentials signed by ten constituents; and thirdly, of isolated pharmaceutists, residing in places where the number of apothecaries is too small to send a representative by right, who shall be admitted to the meetings of the Association and participate in its transactions, provided they are introduced at the meetings by the Committee on Credentials."

(2d draft) "Section II. All pharmaceutists and druggists who shall have attained the age of 21 years, whose character, morally and professionally, is fair, and who, after duly considering the obligations of the Constitution and Code of Ethics of this Association, are willing to subscribe to them, shall be eligible for membership.

"The members shall consist of Delegates from Colleges of Pharmacy and Pharmaceutical Societies, who shall present properly authorized credentials; and of other reputable pharmaceutists feeling an interest in the objects of the Association who may not be so delegated, the latter being required to present a certificate signed by a majority of the delegates from the places whence they came. If no such delegates are present at the meeting, they may, on obtaining the certificates of any three members of the Association, be admitted."

An animated debate ensued on the above drafts of the second section; one part of the members were of the opinion that the members of the proposed association should come from organized societies as far as practicable, and that the representative basis should be aimed at, even for places where no organization exists, by requiring every member from such places to bring credentials from the practicing apothecaries. This would enable every section of the profession desiring to do so, to have a voice in the National Association, and by bringing them together would practically suggest the idea of organizing themselves into permanent local societies. They argued that any instances of isolated pharmaceutists desiring to take part in the meetings from interest in their objects, would be met by the latter clause, by which such gen-

tlemen could gain admittance by courtesy through the Credential Committee. They further argued, that if the door was thrown open as widely as suggested in the second draft, the action of the association could be influenced by the ingress of members from large cities, who might be wholly disconnected with the Societies in those cities and inimical to them. They thought that by adhering to the representative basis, Societies in cities, by extending their connections through small towns by means of associate members, would be enabled to extend their usefulness, and by authorizing said associations, as delegates, a larger surface of the profession could be represented; besides, by thus giving the right of membership to the members of organized bodies, it would be an inducement for apothecaries to form associations.

The other part of the members advocated the second draft, or something equivalent. They believed, in the present condition of Pharmacy in the United States, that a liberal basis should be adopted. Their faith in the good intentions of the mass of the apothecaries and druggists was sufficient to induce them to throw open the doors and let all enter who could bring certificates of their good standing at home, and who were willing to sign the Constitution and Code of Ethics, after having carefully considered them. They were of the opinion that the second section of the first draft would cut off all the apothecaries from cities where colleges or societies exist, except the few delegates appointed by the societies, many of whom would naturally desire to participate. They viewed the delegations from colleges as present in a two fold capacity: 1st, as representatives of the interests of their institutions in any movements of the National Association affecting them; and 2d, as members of that Association in their individual capacity, looking to the general interests of the pharmaceutical profession. They therefore considered that the association should be independent of all local bodies, at the same time that the latter through their delegates could act in and with the association if they desired. They believed if the liberal view was adopted, that even gentlemen of the opposite opinion would find that too few instead of too many would avail themselves of the opening.

The second draft, after being amended by the addition to its final paragraph of the words "provided they are introduced by the Committee on Credentials," was finally adopted.

The first section declaring that the proposed National Society should be called "THE AMERICAN PHARMACEUTICAL ASSOCIATION," was then taken up and adopted.

The other sections of the Constitution, as far as reported, in reference to the officers, and the meetings, &c., were then considered in order, and after some verbal alterations, adopted.—(*See page* 13.)

The Convention then proceeded to consider the Code of Ethics article by article, which was adopted without amendment, and laid on the table to await the final action on the preamble and constitution.—(*See page* 16.)

On motion of Mr. Procter the Convention adjourned to four o'clock, P. M.

Third Sitting, October 7th, 4 o'clock, P. M.

President in the chair.

On the roll being called the delegates generally were present, and subsequently Prof. Carson, invited by the resolution of yesterday, was introduced.

The minutes of the preceding sitting were read and adopted.

The President informed the Convention that the Business Committee not being ready to report, it was understood that Dr. Stewart, Examiner of Drugs, &c., at the port of Baltimore, had some statements to offer in regard to the working of the drug law at that port, and the Convention assenting, requested him to proceed.

Dr. Stewart stated that as there had been some difference of opinion among the Drug Examiners as to the intention of the law in certain cases, he desired the opinion of the Convention regarding the inferior class of Cinchona barks that come from Maracaibo, Carthagena, &c., and other articles about which there is difference of opinion among druggists. In illustration of the difficulties of the subject, he remarked that one invoice of bark, that in a commercial point of view was not esteemed, and which came invoiced at 10 cents per pound, had yielded on analysis two and a half per cent of cinchona, whilst Loxa bark, invoiced at 30 cents per pound, had afforded but a fraction of one per cent. He considered the admission of the barks in question as quite different from deteriorated or adulterated drugs, in as much as they possessed a range of power which, though inferior to the best Peruvian barks, was

yet useful, and capable of application in medicine. He therefore offered the following resolution.

"Resolved, that it is the opinion of this Convention, that all varieties of drugs, that are good of their kind, should be admitted by the special examiners of drugs and medicines."

Pending the consideration of this resolution, Mr. Coggeshall informed the Convention that Dr. Bailey, the Special Examiner of drugs for the port of New York, had furnished, at his request, a report on the character of imported drugs coming under his supervision and on the general working of the law, which, by request, was read.—(*See Varieties.*)

A similar report from Mr. Edward Hamilton, late Drug Examiner at the port of Boston, communicated to Mr. S. M. Colcord, at his request with a view to its being presented to this Convention, was also read.

Dr. Stewart then opened the debate on the subject, arguing that drugs, of whatever virtue or variety, so that they are good of their kind, should be admitted.

In reference to barks he could say, that perhaps a larger amount of the varieties of that drug came into the port of Baltimore than any other. That the merchants in that trade were so desirous of getting the best kinds, that it was quite usual for them to import specimens by way of the Isthmus, and have them examined before ordering their invoices, in order to see if they would pass the Custom House inspector. That he had, (as Examiner at that port) chemically examined a large number of samples of the barks, both Peruvian and Carthagena, and that the latter had invariably contained more or less of the alkaloids, and were generally of good quality of their kind.

He therefore considered the fact that a drug is or may be used as an adulteration for other drugs, should not exclude it, if it is used to any extent on its own merits. In illustration Dr. Stewart remarked that the Examiner might go on a vessel and observe, side by side, two casks of oil, consigned to the same individual, one invoiced "cod-liver oil," and the other "sperm oil." On examination he finds that they are what they purport to be; the suspicion would arise very naturally that the latter was to be used for adulterating the former, yet should sperm oil be excluded because certain parties use it as an adulteration? He thought not,

and on the same grounds he considered that the inferior varieties of barks and of rhubarb should be admitted, although some persons may use them for adulteration.

At the request of the President, Professor Carson, of the University of Pennsylvania, addressed the Convention on the subject before it. He coincided generally with the views of Dr. Stewart, as regarded the value of the barks in question. He expressed the opinion that numerous varieties of the so called Carthagena and Maracaibo barks possessed decided medicinal virtue, that several kinds of European rhubarb were of much value in medicine, especially in times when the officinal varieties are scarce, and that these drugs should all be admitted when not deteriorated or adulterated.

Mr. Haskell, of New York, advocated the same views, more especially as related to English rhubarb, bringing forward the testimony of Dr. Pereira, to the effect that some specimens of Banbury rhubarb were almost, if not fully, equal to the Chinese drug, and even of rather higher price. He also stated that a large demand existed in this country for yellow Carthagena barks. That the house of which he was a member, sold large quantities in powder, and that the parties purchasing it, did so, knowing its origin. He was not aware of the use to which it was put, but presumed that it was employed legitimately.

Mr. Fish, of Connecticut, stated that through the part of New England that he represented, considerable quantities of the barks in question were used legitimately as a tonic; and that no instance of their being used as an adulteration of the Peruvian barks had come to his knowledge.

Mr. Coggeshall, on the other side of the question, called the attention of the Convention to the item in Dr. Bailey's report, showing that three hundred thousand pounds of these barks had been rejected at the port of New York in about two years and a half. He argued that this bark was not consumed there—that it was not used in the manufacture of the alkaloids—that the allegation that it was used for making tooth powders would hardly account for the great consumption of it, and the question naturally arose, for what purpose was it imported? Mr. Coggeshall believed that it was used extensively to grind with the Peruvian barks as an adulteration, to make an inferior extract, which could

be done cheaply and profitably, and which was largely sold as an officinal preparation—that many of the persons who came to our cities to buy drugs, were not able to judge of their purity, and bought them without asking any questions, save as regarded price,—and so convinced was he of the application of these false barks to these false purposes, that as a protective measure, in his opinion, they should be excluded. And also in regard to English and other European rhubarb, that the argument of Professor Carson would not hold good, while the markets were so well supplied with the Russian and Chinese varieties, to which the Banbury, regarded as the best of the European, was so very inferior. Entirely independent of this argument, however, Mr. Coggeshall considered that European rhubarb should be excluded, because of its peculiar adaptation and general use as an adulteration, owing to its fine color, which enables the adulterator to improve the appearance of the inferior Chinese variety, and to mix it with the Russian article in powder without depreciating its appearance, or as it is done to a great extent, substituted entirely for the true article.

Mr. Colcord, of Boston, advocated the latter view, and hoped that the resolution would not pass.

Other members of the Convention joined in the debate, after which the question was taken on the resolution of Dr. Stewart, and it was lost.

As the importance of the subject introduced by Dr. Stewart was fully appreciated by the Convention, at the same time that no direct course of action seemed proper for it to pursue, the following resolution was offered by Mr. Smith, of Cincinnati, viz:

"Resolved, that the whole subject of the inspection of drugs shall be referred to a Committee, who shall be instructed to confer with the Examiners, and endeavor to arrive at some practicable means of fixing standards for imported drugs."

The resolution was unanimously adopted, and Mr. Taylor of Philadelphia, Mr. Meakim, of New York, and Mr. Burnett, of Boston, were appointed by the President to carry it into effect.

On motion of Mr. Procter, Dr. Stewart of Baltimore was added to the Committee.

The Business Committee having signified their readiness to make

a further report, the following resolutions pertaining to the subject just under consideration were read.

"Resolved, That in the opinion of this Convention, the law against the importation of adulterated drugs, chemicals, and medicinal preparations, has already effected much good by excluding large quantities of inferior drugs from the market.

"Resolved, That inasmuch as the usefulness of this law will be proportioned to the ability, and conscientious discharge of duty of the Examiners, that this Convention shall respectfully and urgently represent to the appointing power, the cardinal importance of preventing the removal of qualified Examiners on mere political grounds.

On the question being taken, they were unanimously adopted.

The Business Committee reported the following resolution relative to the sale of poisons, which was read:

"Resolved, That the subject of the indiscriminate sale of poisons, as now conducted by apothecaries, druggists and others, as regards the practicability of effecting some useful reform in the present state of the traffic, be referred to a committee of four members, to report at the next annual meeting."

After some discussion as to what constituted a poison in the meaning of the resolution, it was adopted, and the following gentlemen were appointed by the President to carry it into effect: Mr. Procter of Philadelphia, Dr. Philbrick of Boston, Mr. Duval of Richmond and Mr. Coggeshall of New York.

The following additions to the Constitution were then brought forward by the Business Committee and acted on separately:

To Section 2d. "All persons who become members of this association shall be considered as permanent members, but may be expelled for improper conduct by a vote of two-thirds of the members present at any annual meeting.

"Every member in attendance at the Annual Meeting shall pay into the hands of the Treasurer the sum of two dollars as his yearly contribution.

"Section V. This Constitution may be altered or amended by a vote of three-fourths of the members present at any regular meeting, and notice to alter or amend the same shall be given at least one sitting before a vote thereupon."

They were adopted without a dissenting voice.

The following resolution was brought forward by the Business Committee and read:

"Resolved, That a Committee of three members be appointed to take into consideration the whole subject of secret or quack medicines, and report at the next annual meeting the result of their deliberations, whether any course can be suggested by which the Association may act efficiently in abating this great evil."

After some discussion in which the difficulties that opposed all efforts in reference to this subject were stated, the question was taken and carried; and the President appointed Charles A. Smith of Cincinnati, and Henry F. Fish of Waterbury, Connecticut; when on motion of Mr. Procter, the President of the Convention was unanimously requested to act as Chairman.

The following declaration of the sentiments of the Convention, brought forward by the Business Committee, was then read and adopted:

"The subject of pharmaceutical education being considered of paramount importance by this Convention, and having been deliberated upon by its Committee, the following resolutions have been adopted, expressive of the sense of the Convention in reference to this important subject:

It is resolved,

1st. That this Convention earnestly recommends to the practising apothecaries in all sections of the United States, in places where they are sufficiently numerous, that they should organize themselves into societies, for mutual improvement as Pharmaceutists, for the encouragement of Pharmaceutical literature by the formation of libraries, and for the adoption of rules of conduct calculated to elevate the character of the profession among them.

2. That as schools of Pharmacy are the most effectual aids to the student, this Convention respectfully recommends to Pharmaceutists in all cities where they are numerous, to take measures for the establishment of such institutions, as powerful means of improving the education of their assistants and apprentices, and thus benefitting themselves and the public.

3. That this Convention also recommends that more attention should be given by proprietors to the claims of their apprentices or assistants, who are in course of study, as regards the facilities for learning, and the tuition which of right should proceed from them,

[the proprietors] in the absence of schools of Pharmacy; especially in the provision of the best books of reference on the several subjects that claim the attention of students of pharmacy.

4. And, That in the opinion of this Convention it is desirable that apothecaries should be more generally careful, in taking pupils or apprentices, in reference to their fitness, as regards natural endowments and preliminary education, believing that many persons who are now engaged in Pharmacy and unfitted for its duties, might thus have been prevented from misapplying their time, and abilities, in a profession for which they are not calculated."

The preamble of the Constitution* was then read and adopted.

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*CONSTITUTION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

Whereas, The advancement of pharmaceutical knowledge and the elevation of the professional character of apothecaries and druggists throughout the United States are objects that are dear to us in common with all well disposed pharmaceutists; and *whereas* a large portion of those in whose hands the practice of pharmacy now exists, are not properly qualified for the responsible offices it involves, chiefly by reason of the many difficulties that impede the acquirement of a correct knowledge of their business;—

Therefore, We, the members of a Convention now met at Philadelphia, composed of apothecaries and druggists from different sections of the Union, and from all the Colleges and Societies therein existing, with the object of deliberating on the condition of our profession, *do* hereby resolve and constitute ourselves into a permanent association, to meet annually at such, times and places as may hereafter be determined, for more effectually accomplishing the objects for which we are now assembled; and do now adopt the following

CONSTITUTION.

SECTION I.

This association shall be called "*The American Pharmaceutical Association.*"

SECTION II. *Of the Members.*

ARTICLE I. All pharmaceutists and druggists who shall have attained the age of twenty-one years, whose character, morally and professionally, is fair, and who, after duly considering the obligations of the Constitution and Code of Ethics of this Association, are willing to subscribe to them, shall be eligible for membership.

ARTICLE II. The members shall consist of delegates from regularly constituted Colleges of Pharmacy, and Pharmaceutical Societies, who shall present properly authorized credentials, and of other reputable Pharmaceutists feeling an interest in the objects of the Association, who may not be so dele-

On motion of Mr. Procter it was resolved to proceed to the election of a Treasurer and Executive Committee.

Messrs. Bache and Taylor were appointed tellers, who reported that Alfred B. Taylor was elected Treasurer, and William Procter, Jr., George D. Coggeshall, and Joseph Burnett as the Executive Committee.

Mr. Burnett, of Boston, said that he was instructed by resolution of the Massachusetts College of Pharmacy to express the desire of that body, that the Convention would meet next in their city.

On motion of Dr. Stewart it was resolved that when this

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gated, the latter being required to present a certificate signed by a majority of the delegates from the places whence they come. If no such delegates are present at the Association, they may on obtaining the certificates of any three members of the Association be admitted, provided they be introduced by the committee on credentials.

ARTICLE III. All persons who become members of this Association shall be considered as permanent members, but may be expelled for improper conduct by a vote of two-thirds of the members present at any annual meeting.

ARTICLE IV. Every member in attendance at the annual meetings shall pay into the hands of the Treasurer the sum of two dollars as his yearly contribution.

ARTICLE V. Every local Pharmaceutical Association shall be entitled to five delegates.

SECTION III. *Of the Officers.*

The officers of this association shall be a *President*, three *Vice Presidents*, a *Recording Secretary*, a *Corresponding Secretary*, a *Treasurer*, and an *Executive Committee* of three, which may include any of the members except the President, all of whom shall be elected annually.

ARTICLE I. The President shall preside at the meetings and preserve order. He shall nominate all committees, except a majority of the members present direct a resort to balloting or other means. He shall sign all certificates of membership, approve of all foreign correspondence, and countersign all orders on the Treasurer drawn by the Executive Committee. And he shall, at least three months previously to the annual meeting, publish a call in all the pharmaceutical and in such medical and other Journals as he may select, stating therein the objects of the Association, and the conditions of membership.

ARTICLE II. In case of the temporary absence, or inability of the President, his duties shall devolve on one of the Vice Presidents.

ARTICLE III. The Recording Secretary shall keep fair and correct

Convention finally adjourns, it will accept the invitation of the Massachusetts College of Pharmacy, and adjourn to meet as the American Pharmaceutical Association, at Boston, on the fourth Wednesday [24th] of August, 1853.

On motion, the Convention then adjourned to 9 o'clock A. M, to-morrow.

Fourth Sitting—October 8th, 1852, 9 o'clock, A. M.

President in the Chair.

The minutes of last meeting were read and approved.

The business Committee proposed the following addition to the fourth section of the Constitution, which was read.

"Section IV. article 3d. Immediately after the temporary organi-

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minutes of the proceedings of the Association. He shall keep a roll book of the members, and see that it is corrected annually, and he shall furnish to the Executive Committee a correct transcript of the minutes of the meetings for publication in the Transactions of the Association.

Article IV. The Corresponding Secretary shall attend to the official correspondence directed by the association with other bodies, or with its members, all of which correspondence shall be approved by the President.

Article V. The Treasurer shall receive and take care of the funds of the association; shall pay its money only on the order of the Executive Committee, countersigned by the President; and shall present a statement of his accounts annually, that they may be audited.

Article VI. The Executive Committee shall take charge of the publication of the proceedings of the Association, including such papers on scientific subjects as it may direct to be published; attend to their distribution; pay the expenses incurred on behalf of the Association at its meetings or in the interim, and report a statement of their transactions to the next meeting.

Section IV. *Of the Meetings.*

Article I. The meetings shall be held annually, at such time and place as shall be determined at the adjournment of the previous meeting, observing that no two meetings shall be held consecutively at the same place.

Article II. The meetings shall be organized by the President of the previous year, or, in his absence, by either of the Vice Presidents in the order of their election, or, in their absence, by the Recording Secretary, who shall act *pro tempore* until the nomination and election of officers for the session.

Article III. Immediately after the temporary organization of the Association the roll shall be called, when a committee on credentials shall be appointed from the *members* present, to whom the certificates of delegates

zation of the Association, the roll shall be called, when a committee on credentials shall be appointed from the members present, to whom the certificates of delegates shall be submitted, and who shall examine the claims of all other applicants for membership before they are submitted to the Association."

It was adopted—

They also proposed the following addition to Section 2d.

"Every local pharmaceutical association shall be entitled to send five delegates."

After some discussion as to the propriety of limiting the number

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shall be submitted, and who shall examine the claims of all other applicants for membership before they are submitted to the Association.

SECTION V.

This Constitution may be altered or amended by a vote of three-fourths of the members present at any regular meeting, and notice to alter or amend the same shall be given at least one sitting before a vote thereupon.

CODE OF ETHICS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The American Pharmaceutical Association, composed of Pharmaceutists and Druggists throughout the United States, feeling a strong interest in the success and advancement of their profession in its practical and scientific relations, and also impressed with the belief that no amount of knowledge and skill will protect themselves and the public from the ill effects of an undue competition, and the temptations to gain at the expense of quality, unless they are upheld by high moral obligations in the path of duty, have subscribed to the following *Code of Ethics* for the government of their professional conduct.

ART. I. As the practice of pharmacy can only become uniform by an open and candid intercourse being kept up between apothecaries and druggists among themselves and each other, by the adoption of the National Pharmacopœia as a guide in the preparation of officinal medicines, by the discontinuance of secret formulæ and the practices arising from a quackish spirit, and by an encouragement of that *esprit du corps* which will prevent a resort to those disreputable practices arising out of an injurious and wicked competition;—*Therefore*, the members of this Association agree to uphold the use of the Pharmacopœia in their practice; to cultivate brotherly feeling among the members, and to discountenance quackery and dishonorable competition in their business.

ART. II. As labor should have its just reward, and as the skill knowledge and responsibility required in the practice of pharmacy are great,

at all, or if so, of making it in the ratio of the number of members, it was adopted as proposed.

The preamble of the Constitution was then taken up and after a mere verbal alteration was adopted and the Constitution thus completed.

Mr. Edward Parrish of Philadelphia offered the following resolution and queries which were read, and, after some verbal amendment, were adopted, viz:

"Resolved that the Executive Committee be requested to obtain, through the several Colleges of Pharmacy and Pharmaceu-

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the remuneration of the pharmaceutist's services should be proportioned to these, rather than to the market value of the preparations vended. The rate of charges will necessarily vary with geographical position, municipal location, and other circumstances of a permanent character, but a resort to intentional and unnecessary reduction in the rate of charges among apothecaries, with a view to gaining at the expense of their brethren, is strongly discountenanced by this Association as productive of evil results.

ART. III. The first duty of the apothecary, after duly preparing himself for his profession, being to procure good drugs and preparations, (for without these his skill and knowledge are of small avail,) he frequently has to rely on the good faith of the druggist for their selection. Those druggists whose knowledge, skill and integrity enable them to conduct their business faithfully, should be encouraged, rather than those who base their claims of patronage on the cheapness of their articles solely. When accidentally or otherwise, a deteriorated, or adulterated drug or medicine is sent to the apothecary, he should invariably return it to the druggist, with a statement of its defects. What is too frequently considered as a mere error of trade on the part of the druggist, becomes a *highly culpable* act when countenanced by the apothecary; hence, when repetitions of such frauds occur, they should be exposed for the benefit of the profession. A careful but firm pursuit of this course would render well-disposed druggists more careful, and deter the fraudulently inclined from a resort to their disreputable practices.

ART. IV. As the practice of pharmacy is quite distinct from the practice of medicine, and has been found to flourish in proportion as its practitioners have confined their attention to its requirements; and as the conduction of the business of both professions by the same individual involves pecuniary temptations which are often not compatible with a conscientious discharge of duty; we consider that the members of this Association should discountenance all such professional amalgamation; and in

tical associations, previous to our next annual meeting, answers to the following questions as far as expedient.

"1st, How many Apothecaries and Druggists are there in each of the principal Cities and towns of the United States?

"2d, What organizations exist in the several States, and what is the number of their members as compared with the number of druggists and apothecaries in the localities which they include?

"3d, How far is the business of dispensing medicines separated from the office of prescribing?

"4th, Have you any information in regard to the practice of our art, and the professional character of its practitioners, in dif-

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conducting business at the counter, should avoid prescribing for diseases when practicable, referring applicants for medical advice to the physician. We hold it as unprofessional and highly reprehensible for apothecaries to allow any per centage or commission to physicians on their prescriptions, as unjust to the public, and hurtful to the independence and self-respect of both the parties concerned. We also consider that the practice of some physicians, (in places where good apothecaries are numerous) of obtaining medicines at low prices from the latter, and selling them to their patients, is not only unjust and unprofessional, but deserving the censure of all high-minded medical men.

ART. V. The important influence exerted on the practice of pharmacy by the large proportion of physicians who have resigned its duties and emoluments to the apothecary, are reasons why he should seek their favorable opinion and cultivate their friendship, by earnest endeavors to furnish their patients with pure and well-prepared medicines. As physicians are liable to commit errors in writing their prescriptions, involving serious consequence to health and reputation if permitted to leave the shop, the apothecary should always, when he deems an error has been made, consult the physician before proceeding; yet in the delay which must necessarily occur, it his duty, when possible, to accomplish the interview without compromising the reputation of the physician. On the other hand, when apothecaries commit errors involving ill consequences, the physician, knowing the constant liability to error, should feel bound to screen them from undue censure, unless the result of a culpable negligence.

ART. VI. As we owe a debt of gratitude to our predecessors for the researches and observations which have so far advanced our scientific art, we hold that every apothecary and druggist is bound to contribute his mite towards the same fund, by noting the new ideas and phenomena which may occur in the course of his business, and publishing them, when of sufficient consequence, for the benefit of the profession.

ferent localities, likely to be of advantage to the Association in promoting the objects it has in view?

"5th, Are there any State laws for the protection of the interests of the profession of Pharmacy, for the suppressing of Empyricism, or in reference to the sale of poisons?"

Mr. C. A. Smith, of Cincinnati, offered the following resolution, which was read and adopted.

"Resolved, that the thanks of the Convention be presented to the President and Secretary, for the able manner in which they have performed the duties of their offices, and also to the Philadelphia College of Pharmacy, for the hospitality extended towards us."

On motion of Mr. Parrish it was voted, that the officers of this Convention, not specially elected under the Constitution, be considered the officers of the American Pharmaceutical Association until the election at the meeting of next year—when the Convention finally adjourned.

GEORGE D. COGGESHALL,
Recording Secretary.

ON THE SPONTANEOUS DECOMPOSITION OF PYROXYLIN, (GUN COTTON.)

To the Editor of the American Journal of Pharmacy:

About six months ago, I prepared a quantity of gun-cotton, according to the formula of the U. S. Pharmacopœia; and put it into a wide-mouthed bottle, which was furnished with an accurate stopper.

Having had occasion to examine it the other day, I found the upper portion of the bottle completely filled with nitrous acid gas, and the lower portion of the cork changed into *Suberic acid.*

After exposing it for sometime to the air, and allowing the nitrous acid to escape, I tried to dissolve a little of it in a mixture of ether and alcohol, but found it totally insoluble: another portion I ignited, but found it to be entirely divested of its explosive properties.

It will be evident from this, that in order to make good Collodion, the gun-cotton must be recently prepared; and in no case ought it to be kept in a bottle furnished with a cork stopper: and

from the disposition which it shows for undergoing spontaneous decomposition, great care ought to be exercised whenever this article is intended to keep for any length of time. Wrapping it in paper, for instance, and laying it along side of other parcels, would in my opinion be incurring the risk of great mischief and danger, from the liberation of the free nitrous acid gas.

JAMES BEATSON, *Apothecary*,
U. S. Naval Hospital.

United States Naval Hospital, New York Station, Sept. 1851.

NOTE BY THE EDITOR.—We have also noticed the decomposition of gun-cotton prepared by Mialhe's process, that now found in the U. S. Pharmacopœia. Last winter a parcel of gun-cotton was, after drying, put in a wide-mouthed vial and covered with paper instead of a cork. On recently examining it, the cotton had undergone a complete change, the odor of nitrous acid was quite apparent in the vial, and the texture of the paper cover was destroyed. When pressed in the fingers its apparently fibrous structure was lost, and a gummy mass, exceedingly adhesive, remained, which was not soluble in ether. As several writers have noticed the same, or analogous changes, and some light has been thrown on its cause by Mr. Gladestone, we will make a few statements from papers in the Pharmaceutical Journal.

The first notice is by Mr. Tustin, (vol. IX. 405.) He had prepared gun-cotton for collodion, by Mialhe's process, and put it away in a corked bottle for several months in a dark closet, having opened it from time to time to remove portions, when, on the last occasion, he found the bottle full of reddish-brown vapours, and that the cotton had lost its explosibility, had a strong acid taste, and contained evidences of nitric and sulphuric acids, though neutral when put away. Common cotton is a powerful depolarizer, whilst gun-cotton does not depolarize light. Dr. Pereira, to whom this gun-cotton was shown, writes:—"*Your decomposing gun-cotton agrees with common cotton*, though its depolarizing properties are somewhat weaker; either, therefore, the cotton was not originally properly prepared, or it has resumed its former optical characters, and simultaneously has given out an oxide of nitrogen (either NO_2 or NO_4)."

Mr. Tustin here leaves the inquiry, after stating that the gun-cotton was still soluble in ether.

Mr. Jacob Bell (ibid. 406) had known a similar decomposition, during which a tin foil cover to the bottle was destroyed by the acid fumes.

Mr. J. H. Gladstone has examined into the changes which gun-cotton and analogous substances undergo, more critically (ibid. vol. XI. page 401,) and we extract the following:

"Gun-cotton, as ordinarily produced, especially for the preparation of col-

lodion, is a mixture of two distinct, though analogous substances. One is designated pyroxyline, and has the formula $C_{24}\left\{\begin{matrix}H_{13}\\5\,NO_4\end{matrix}\right\}O_{20}$ assigned to it in my paper, (Mem. Chem. Society, iii. p. 412;) it leaves no residuum on explosion, and is insoluble in ether. The other received the appellation cotton-xyloidine, and the formula $C_{24}\left\{\begin{matrix}H_{17}\\3\,NO_4\end{matrix}\right\}O_{20}$; it leaves a residue on explosion, is soluble in ether, &c. The remark of Mr. Tustin, that his decomposing gun-cotton was soluble in ether, proves that it was, partly at least, this latter compound, and not the more explosive one. I shall speak of each of these descriptions of gun-cotton separately.

"*Pyroxyline.*—This substance is produced only when cotton or cotton-xyloidine, is immersed in a mixture of nitric acid, sp. gr. 1.5 with strong oil of vitriol. Although it contains so large an amount of oxide of nitrogen, I am acquainted with no clear instance in which it has undergone spontaneous decomposition. Specimens obtained by the action of the mixed acids on cotton-xylodine, have shown no indications of change; and, pyroxyline obtained in a compact translucent form from solution in acetic ether, has also remained unaltered.

Cotton-Xyloidine.—This may be prepared in a state of purity, and in a pulverulent condition, by dissolving cotton or pyroxylin in nitric acid of about sp. gr. 1.45, and precipitating the substance by water.

Several specimens of this compound, made from both sources, have hitherto suffered no decomposition, but they have been generally kept in the dark. One sample of precipitated cotton-xyloidine placed in a stoppered bottle remained in a cupboard, the door of which was sometimes open, sometimes closed. After a lapse of about three years it suddenly began to evolve nitric oxide and water. The action continued for a few weeks and then nothing remained but a small quantity of a transparent gummy mass of a light brown color, and possessed of a very peculiar odor. Several months produced no further alteration. This product of decomposition which had about the tenacity and consistency of ordinary gum, was not explosive: when heated in a close tube *per se* it evolved red fumes, and afterwards swelled up, being carbonized and evolving empyreumatic oils. It was found to be insoluble in cold water; but when boiled in that liquid it swelled up as a gelatinous mass, and became disintegrated."

After detailing experiments with a variety of starchy and gummy substances, Mr. Gladstone remarks, that the *rationale* of the decompositions has not been clearly elucidated. "The only general conclusion which can be drawn appears to be, that several substances of the character above described, have a tendency to suffer spontaneous decomposition from being oxidized into non-azotized acids at the expense of the peroxide of nitrogen NO_4 they contain, which is reduced to the condition of nitric oxide NO_2 and evolved as such, a portion of water being always given off at the same time."

We have frequently noticed that the solubility of gun-cotton in ether is influenced by the length of time the cotton is acted on by the acid mixture, and that when three and a half or four minutes elapse, the change has been sufficiently completed. When not sufficiently changed, cotton assumes, in contact with ether, a consistence like gum tragacanth mucilage, or starch jelly.

RESOLUTIONS, ETC., ADOPTED AT A MEETING OF THE BOARD OF TRUSTEES OF THE MASSACHUSETTS COLLEGE OF PHARMACY, NOV. 15, 1852.

Resolved, 1*st*.—That we heartily approve of the proceedings of the National Pharmaceutical Convention, held in Philadelphia, October, 1852, and recognize in its doings, the spirit that should actuate the pharmaceutists of this wide-spread Republic.

Resolved, 2*d*.—That we approve of the objects and designs of the American Pharmaceutical Association, and will lend our aid and influence in promoting its objects, and for extending the usefulness of the Association.

Resolved, 3*d*.—That we adopt the Code of Ethics of the American Pharmaceutical Association, passed by that body, A. D. 1852, as the Ethics of the Massachusetts College of Pharmacy.

Voted.—That a committee of six be appointed to collect statistical information of the state of Pharmacy in New England, for the use of this College, and to act upon the resolutions and queries offered by Mr. Edward Parrish, of Philadelphia, in the National Pharmaceutical Convention; and that Samuel M. Colcord, Ashel Boyden, Thomas Restieaux, William A. Brewer, Samuel R. Philbrick, and Henry D. Fowle, constitute said committee.

Voted.—That the Committee have power to fill any vacancies that may occur in their number.

Voted.—That a copy of these resolutions, &c., be forwarded to the Secretary of the American Pharmaceutical Association.

A true copy.

Attest, HENRY W. LINCOLN,
Secretary.

[*Note*. We publish the above exhibit of the action of the Trustees of the Massachusetts College of Pharmacy, with the consent of the President and officers of the Board, subject to their approval at the annual meeting not yet held.—EDITOR.]

ON FLUID EXTRACT OF RHUBARB AND SENNA.

By William Procter, Jr.

Notwithstanding that two preparations of Rhubarb and Senna are already known, it is believed that the new one, now proposed, possesses sufficient claims to gain for it the favorable opinion of physicians and patients in many cases where a cathartic is needed, simply as such, or in connection with other medicines. It is well known, that senna has little, if any, tonic influence on the alimentary surfaces; that an overdose has a depleting effect, often inconvenient, and that griping is a frequent attendant on its exhibition. On the other hand, it is equally understood, that rhubarb is remarkable for being a sort of therapeutical paradox, in so far as it possesses both a purgative and an astringent property, the latter coming into play *after* the former has manifested itself, and thus repairing, as it were, its effects. It is also well known, that this astringent or tonic action is so strongly marked, that it is necessary in most cases to combine it with some other cathartic to overcome or modify this peculiarity when a simple cathartic is needed. By the union of these two drugs in the concentrated form presented by a fluid extract, and in a due proportion, a resulting cathartic action is obtained which is safe, unattended by unpleasant symptoms, and not followed by constipation when the dose has been properly graduated. It has been ascertained that the association of alkalies and alkaline salts with rhubarb and senna, has a tendency to prevent their unpleasant griping effects, and in the case of senna, to increase its activity. The introduction of the bicarbonate of potassa is with this view, and the aromatics from their carminative properties also aid. The following is the formula:—

Take of Senna, in coarse powder,	twelve ounces, (troy)
Rhubarb, in coarse powder,	four ounces,
Bicarbonate of potassa,	half an ounce,
Sugar,	eight ounces,
Tincture of ginger,	a fluid ounce,
Oil of cloves,	eight minims,
Oil of aniseed,	sixteen minims,

Water and alcohol, of each a sufficient quantity.

Mix the senna and rhubarb (by grinding them together is a convenient way,) pour upon them two pints of diluted alcohol

(U. S. P.), allow them to macerate twenty-four hours, and introduce the mixture into a percolator furnished below with a stop-cock or cork to regulate the flow. A mixture of one part of alcohol and three of water should now be poured on above, so as to keep a constant but slow displacement of the absorbed menstruum, until one gallon of tincture has passed. Evaporate this in a water bath to eleven fluid ounces, dissolve in it the sugar and bicarbonate, and after straining, add the tincture of ginger, holding the oils in solution and mix. When done the whole should measure a pint.

Remarks. If the percolation has been properly conducted, the ingredients will have been sufficiently exhausted when six pints of fluid have passed. As by far the larger portion of the soluble matter passes in the first two pints, it is well to set these aside and evaporate them separately to six fluid ounces, subsequently adding it to the other liquid when it has been reduced to five fluid ounces. As the cathartic principles of senna and rhubarb are very susceptible to injury from heat, especially in contact with the air, the propriety of using the best available means for conducting the evaporation need not be urged. When the evaporation is conducted in open vessels, some advantage is gained by adding the sugar to the tincture and continuing the porcess until it measures fifteen fluid ounces. The sugar protects the extractive matter from oxidation and more completely suspends or dissolves the resinous part of the rhubarb contained in the tincture. The bicarbonate should not be added to the extract while it is above 140° Fahr. and should be reduced to powder previously.

It may be objected to this formula that we already have fluid extracts of rhubarb and of senna of the same ratio of strength, and that when physicians need such an association, they can mix them. In answer, it may be stated that the cases where a simple cathartic is needed, are so numerous that this preparation will be found useful to the physician, and a good medicine for travellers and others who resort to this kind of purgative habitually.

ON TANNATE OF ALUMINA.

By William Procter, Jr.

The London Medical Gazette contains an article on the medical application of Tannate of Alumina, in which it is stated that Mr. Rogers Harrison had prepared a combination of alumina and tannic acid which "was of a dirty yellowish color, and in crystals about the size of those of coarse sugar, and readily soluble in hot water." It had been used successfully for inflammation of the urethral passages in the form of injection, two to ten grains of the salt, according to circumstances, dissolved in sufficient distilled water.

Having recently received a prescription for ten grains of this salt dissolved in two fluid ounces of water, and being unable in any of a number of chemical works at my command, to find any account of the salt, I undertook to make it, but could not succeed in obtaining a soluble compound of tannic acid and alumina that answered to the description of that of Mr. Harrison, all of them being insoluble or nearly so in water, and entirely amorphous.

1st. An equivalent of tannic acid was triturated with one of alumina in the pulpy hydrated condition; combination ensued, and an insoluble or slightly soluble compound resulted. The same result occurred when two and three equivalents of alumina were employed. When agitated with water after standing in a pulpy state for several weeks, and the water filtered off, the latter gave no evidence of tannic acid or a soluble tannate.

2d. A solution of alum in water was prepared, containing 37 grains to the fluid ounce, which quantity contains four grains of anhydrous alumina. A solution of tannic acid in water was then made, containing 16 grains to the fluid ounce. The alumina and tannic acid existed nearly in the proportion of their equivalents in these solutions.

Equal measures were mixed together without any precipitation, showing that free tannic acid is unable to displace alumina from its combination with sulphuric acid, notwithstanding the insolubility of the aluminous tannate, even when they are boiled.

3d. When, however, ammonia is carefu ly added to a fluid

ounce of the tannic acid solution until it is saturated, and an equal measure of the solution of alum is added, an immediate bulky gelatinous precipitate occurs, similar in appearance to the magma in No. 1. When washed and dried it weighed 13 grains. The washings had a slight astringent taste, and afforded a slight inky blue precipitate with ter-chloride of iron.

4th. As tannic acid is considered by Liebig to be tribasic, three parts of solution of alum was added to one of solution of tannic acid, with sufficient excess of ammonia to liberate all the alumina. On filtering out the precipitate, the clear liquid yielded no precipitate with ammonia, but was precipitated blueish black by ter-chloride of iron; showing that in the presence of enough alumina to form a tribasic salt, a part of the tannic acid remains in solution probably as tannate of ammonia.

5th. The liquid filtered from No. 3, with the washings, was evaporated to a small bulk, and on standing, dirty yellowish colored crystals in small quantity were deposited. The mother liquid poured off and evaporated gave other mamillary crystals admixed with dark matter. The first crystals had the well known triangular facets of alum, and when tested by solution in hot water, yielded a blueish-black precipitate with ter-chloride of iron. When powdered and boiled in repeated portions of alcohol, nearly all the color is removed, and they give but a trace of color with the ter-chloride, whilst the alcohol when evaporated yielded a yellowish, non-crystalline residue, which reacted as tannic acid with the ter-salts of iron, and was not precipitated by an excess of ammonia. The crystals, after treatment by alcohol, yielded, when dissolved in water, a white insoluble precipitate with chloride of barium, and a gelatinous precipitate with ammonia and were alum. The residue from the mother liquid contained sulphate of ammonia, tannin and some undecomposed alum.

From these results it appears that tannate of alumina formed by direct combination, is an amorphous salt, nearly insoluble in water. That the same salt is precipitated from alum on the addition of tannate of ammonia, and, finally, that it is probable that the tannate of alumina of Mr. Harrison is a mixture of tannic acid and alum, derived either from the evaporation of a mixture of alum and tannic acid; or, from the washings of tannate of alumina, as treated in No. 5.

ON GLYCERIN OINTMENT.

To the Editor of the American Journal of Pharmacy:

Dear Sir,—I send you a formula for an ointment which I have found very useful for chapped hands, lips, excoriations of the skin, &c. &c. I have called it *Glycerin Ointment*.

℞	Spermaceti,	℥ss.
	White wax,	℥j.
	Oil of almonds,	℥ij. (f.)
	Glycerin,	℥j. (f.)

Melt the wax and spermaceti with the oil of almonds at a moderate heat; put these into a wedgewood mortar, add the glycerin, and rub until well mixed and cold. I have used this ointment in my own family, and distributed much of it among my friends, and can testify to its value.

I am not aware that an ointment of which glycerin* forms a part has been proposed, and yet few physicians are ignorant of its property of protecting and soothing inflamed surfaces of the skin and mucous membrane. To such, however, as are unacquainted with its valuable properties, I would refer them to the article on glycerin, in the last edition of Wood & Bache's Dispensatory.

Yours, truly, JOHN H. ECKY.

Philadelphia, Nov. 25, 1852.

DESCRIPTION OF SOME PHARMACEUTICAL APPARATUS.

BY THE EDITOR.

The following described apparatus was exhibited at the Pharmaceutical Society's monthly meeting for May, and its ingenious construction has induced us to copy the plate and description from the Pharmaceutical Journal for June, 1852, as it may be of service to some of our readers.

The Mackenzie Triturator.—This apparatus is intended to perform the heavy pestle-and-mortar, and other mixing operations

* [See vol. xxii., page 118, of this Journal, for a notice of glycerin ointment by Mr. Joseph Laidley. Some of our physicians in prescribing glycerin, forget that it is insoluble in fatty matter, and can only be incorporated with it mechanically, to effect which, it is necessary that the fat should have a soft consistence. We have had prescriptions for a certain measure of glycerin to be incorporated with a sufficient quantity of butter of cocoa to give it the consistence of an ointment, just as though it was a fixed oil. To properly unite so solid a fat as oil of cocoa with glycerin, it is necessary to previously soften it by combination with oil of sweet almonds.—EDITOR.]

involved in the manufacture of ointments and paints, and for the several processes of frictional mixing, with which the druggists' apprentice is, unfortunately for himself, too familiar. The abrading or triturating action is performed by a pestle with an ingeniously arranged differential motion, which we shall describe with the help of three illustrative figures:

Fig. 3.

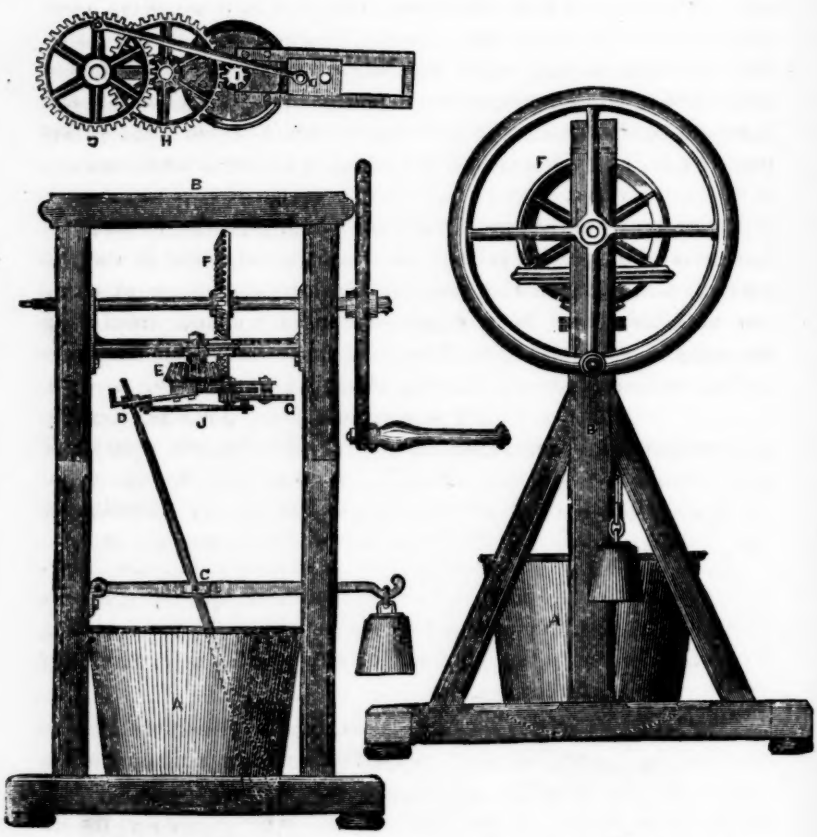


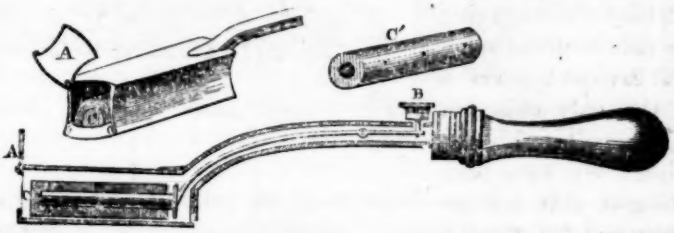
Fig. 1. Fig. 2.

Figure 1 is a front elevation of the triturator, showing the pestle and actuating gearing. Figure 2 is a corresponding side elevation; and figure 3 is a detail for the gearing of the differential movement of the pestle. The mortar, A, is seated in the base of a timber frame, B, the upper part of which carries the driving

shaft and connections. The pestle has a long rod passed, at C, through a universal joint in a weighted lever, arranged to give the proper pressure to the pestle. The top of the pestle-rod is inserted into a small sliding block, D, grooved to slide along a short guide-bar, as shown in the detail, fig. 3. This bar is fixed to the side of the bevel wheel, E, running loose on a vertical stud, and driven by the large wheel, F, fast on the driving shaft, which receives its motion from a winch-handle. A spur-wheel, G, runs on a stud carried by an arm, attached to the wheel, E, and gears with a pinion on the shaft of the spur-wheel, H, which latter gears with a stationary pinion, I, fast on the stud centre of the bevel wheel, E. A rod, L, connects the block, D, to a pin in the face of the wheel, G, and thus the revolution of this wheel causes the rod of the pestle to be continually traversed backwards and forwards across the centre line of the wheel, F, directly over the mortar beneath. This gearing involves the principle of the old "sun-and-planet" motion, and gives to the pestle a most effective rubbing action in a compound revolving and traversing movement.

The original idea in contriving this triturator, was to provide some more effectual plan for grinding sheep ointment, but its success has led to its extended use for all triturating purposes and levigating operations. Small machines are also manufactured with movable wedgewood mortars and pestles, scraper and light iron framing of various sizes, suitable for druggists, &c.

Patent Heat-Regulating Plaster Spatula.—This instrument, invented by Mr. Stockton, of 3 Gray's place, Brompton, (Eng.) we find figured in the Pharmaceutical Journal for November.

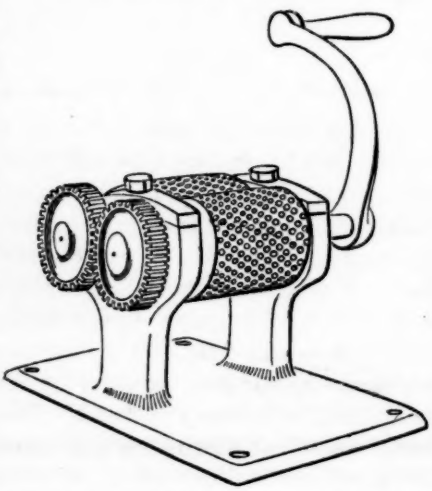


Although rather complicated, it presents several advantages worthy of notice, the chief of which is the perfect control the operator has over the heat. The following description we copy:

The blade is a hollow case into which the heater is inserted, having a door (A) at one end, and being connected at the other by a hollow tube, with the handle. The heater (C) is supported on a lever, which passes through the hollow tube and terminates in a thumb-button (B). By depressing this button the heater is raised so as not to be in contact with the lower part of the spatula. On removing the thumb when more heat is required, the heater is depressed, and produces the desired effect. The heater, which consists of a hollow tube of thick copper, slides on a pin which forms the termination of the lever, and which regulates its position in the box. Some heaters are perforated, to admit of their being easily heated by means of gas.

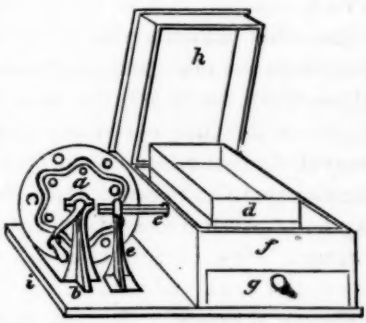
The chief advantage of this Spatula consists in the facility with which the heat may be regulated by means of the lever and button, which latter is quite under the control of the thumb. The box containing the heater is composed of brass, and not being inserted in the fire, is less troublesome to keep clean than the common spatula. When several plasters are required, the heater may be removed and another inserted with facility, without loss of time.

Rotary Pill Machine.—In our last number we described the apparatus of Messrs. POND and MORSE, of Rutland, Vermont, without giving the names of the inventors, an omission entirely accidental, and which we now make up by this additional notice. The difficulty of disengaging the pills from the spherical cavities appears to be the only objection urged against this machine. We have been informed that an arrangement for effecting this purpose has been tried, with but partial success. It consisted of two bands of thin gum elastic passing



over each cylinder and around another cylinder running parallel, supported on a pinion attached to an arm extended on either side from the main support. The mass was fed in between the bands, which, from their elasticity, took the shape of the matrices when pressed on by the pill-mass, and after passing the point of contact, the bands, by contracting, forced out the pills. The objection to this arrangement appears to be, that the bands after use for a time, are cut by the sharp edges of the moulds and become useless.

Harris's Patent Sieve.—By a singular misunderstanding, the invention of the Patent Sieve figured in the margin, and which was described in our last number, was ascribed to Mr. Swift, the inventor of the drug-mill bearing his name. This instrument is the invention of Mr. Saml. Harris of Springfield, Mass., who has made Charles Ellis & Co. his agent for Philadelphia.



PHARMACEUTICAL NOTICES.

By X. Landerer.

Cantharides.—The true Lytta vesicatoria is unknown both in Greece and in the oriental countries. The Mylabris cichorii and M. variegata are generally substituted. These genera are readily distinguished from cantharides by their color and general appearance. They are tolerably abundant throughout the entire East. Landerer observed them in Smyrna and in Constantinople, in the month of August. In Greece they are seen more especially during May and June. They are the Greek chrysomyga, and are used for vesicating purposes by being made into a plaster or cataplasm, with honey or bread. This, after a few hours, produces considerable irritation and redness, followed by vesication.

Landerer has prepared a cerate from the fresh-dried Mylabris, the action of which, although similar, is less powerful than that of cantharides. It is used with advantage to accelerate suppuration, and also as an irritant.

Conium.—Among the inhabitants of the Ionian islands, conium is used as a remedy for asthma. Coarse blotting paper is moistened with a dilute solution of salt-petre, and used as an envelope for the leaves, which are formed into cigars. The effect is said to be extraordinary.

Anthelmintics.—In Greece, strong decoctions of garlic and rue are used for worms. These remedies, in the large doses in which they are administered, frequently produce violent effects. It often happens that children who have been incautiously dosed with a strong decoction of garlic, to which another of rue has been added, exhibit every sign of narcotic poisoning. They become giddy, and fall into a soporous state which lasts for many hours, frequently passing into a deep, though restless sleep, accompanied with delirium. In other cases vomiting supervenes; not unfrequently worms are evacuated in this way. There is also diarrhœa, worms being mingled with the dejections. A dullness of the head, and nausea, together with want of appetite and flatulence, frequently remain many days.—*Central Blat.*, No. 33.—July 1852.

ON THE TRANSFORMATION OF MANNITE INTO SUGAR.

By M. L'HERMITE.

The existence of a slight excess of hydrogen in relation to the oxygen, constitutes the essential difference in the elementary composition of mannite as compared with sugar. On considering the affinities which connect these vegetable principles, we might expect, under certain conditions, to find one of them transformed into the other. This transformation does not appear to have been hitherto studied.

Fresh and perfectly pure manna does not undergo alcoholic fermentation, but after a lapse of some time it is liable to a peculiar alteration. It changes from a white opaque, dry, and almost friable substance, to that of a reddish, translucent, and gluey

one. It is then sufficiently hygrometric to dissolve in the water which it derives from the atmosphere; and this solution, with the addition of yeast, soon becomes converted into alcohol and carbonic acid.

The preceding explains the reason why sugar is found in manna. If, under an oxydizing influence, mannite is convertible into sugar, there can be no doubt that it may also be produced by the action of deoxidizing agents on the sugar itself; it is thus that it is formed in the juice of beet-root submitted to viscous fermentation.—*Comptes Rendus, and Pharm. Jour.*

PREPARATION OF MARKING INKS FOR LINEN.

By Jules Guiller.

The author, who has received five years' exclusive privilege in Paris for the manufacture of marking inks, for the processes which he has invented for making them, states that none of the marking inks used heretofore completely answer the purpose intended. Some produce a yellowish stain on linen; and others, although marking black in the first instance, become gradually washed out. To remedy these evils, and to avoid the use of two fluids in marking linen, he has devised three processes for making marking ink, which are as follows:—

Formula No. 1.

Nitrate of silver	11 parts.
Distilled water	85 "
Powdered gum arabic . . .	20 "
Carbonate of soda . . .	22 "
Liquor of ammonia	30 "

The twenty-two parts of carbonate of soda are to be dissolved in the eighty-five parts of distilled water; and this solution rubbed with the gum in a mortar until it is dissolved. The eleven parts of nitrate of silver are to be dissolved in the twenty parts of liquor of ammonia, and then mixed with the soda solution. The mixed fluids are then to be warmed in a flask, by which they become at first greyish black, and partly coagulated; afterwards brown, and then clear; and lastly, when the ink boils, very dark,

and of such a consistence that it will flow readily from a pen. This ink, and the one prepared according to the second formula, form no precipitates, and thicken by boiling, whereby their colors become darker, and their ammoniacal odor weaker.

Formula No. 2.

Nitrate of silver	5 parts.
Distilled water	12 "
Powdered gum arabic	5 "
Carbonate of soda	7 "
Liquor of ammonia	10 "

These ingredients are to be treated in the manner above described, and the resulting mixture heated in a flask until it has become of a very dark color, which is generally the case when its volume has diminished, about five per cent. by evaporation. By continuing the evaporation too long, a precipitate is produced, in consequence of the loss of ammonia.

The ink prepared in this manner is distinguished by producing very black characters on linen, and is very suitable for marking with stamps.

Formula No. 3.

Nitrate of silver	17 parts.
Distilled water	85 "
Powdered gum arabic	20 "
Carbonate of soda	22 "
Liquor of ammonia	42 "
Sulphate of copper	33 "

The twenty-two parts of carbonate of soda are to be dissolved in twenty-five parts of distilled water, and the seventeen parts of nitrate of silver in the forty-two parts of ammonia. The twenty parts of gum are to be dissolved in the remaining sixty parts of water, and mixed with the soda solution, and afterwards with the silver solution. At last, the thirty-three parts of sulphate of copper are to be added.

The large quantity of ammonia in this formula is explained by the presence of the copper salt. The sulphate of copper could be replaced by nitrate of silver; but to do so, requires a much larger quantity of nitrate of silver, to render the ink as

dark as it is with the copper salt. This compound differs from the others, inasmuch as it has a blue, whilst they have a dark brown color.

The proportions of the ingredients in these formulæ can be altered according to the thickness of the ink required, or according to the use to which it is to be applied, or according to the material which is to be marked.—*Annals of Pharmacy, July, 1852—from Journal de Pharmacie.*

ON THE BOUQUET OF WINE.

By Dr. F. L. Winckler.

In his recent experiments on the vegetation of plants, Winckler has arrived at very satisfactory results explanatory of the specific odor peculiar to the various sorts of wine produced in different districts, which is known by the expression of "*blume*," or "*bouquet.*"

If about half a pint of any sort of grape wine be evaporated in a porcelain vessel by means of steam, until not only all the spirit of wine, but also the œnanthic ether, and, in general, all parts volatile at this temperature (80° R.) are evaporated, a thickish liquid of more or less dark color, and of a peculiar, pleasant, acidulo-vinous odor remains behind, from which, after it has become cold, a greater or lesser quantity of tartar separates. By diluting this liquid with water, so that the weight of the solution is about a quarter of a pound, and subjecting the solution, with an equal weight of fresh burnt lime, to distillation, there is obtained, even during the slacking or hydrating of the lime a very agreeable and intensely smelling distillate, which, like ammonia, is a strong base, and forms with acids neutral salts, possessing in a high degree the odor corresponding to the so-called "bouquet" of the employed wine.

This fact suggested the idea that this compound may be in a similar manner contained in the wine itself, and the supposition was fully corroborated by experiments.

If the residuary lime of the evaporated wine be treated with water after the conclusion of the distillation, the solution filtered, and the filtrate distilled with a small quantity of moderately

strong sulphuric acid, a new volatile acid of a highly specific, almost balsamic odor is obtained, which being neutralized by the necessary quantity of the first-obtained nitrogenous base, yields a neutral volatile salt, which possesses the peculiar odor ("bouquet") of the employed wine in the highest degree. There is, therefore, no doubt that this compound is not only contained as such in the wine, and constitutes the "bouquet," but that it is this nitrogenous compound which determines the chemical constitution, the durability, and all those changes to which it is subject by keeping.

Although for the present only six different sorts of red and white grape wine from various districts of the Grand Duchy have been examined, yet the results are so uniform and decisive, that there exists no reason to doubt their correctness. The contrast was very striking on comparing the "bouquets" of a fine red Oberingelheim wine, of 1846, with a very excellent sort of white Bergstraszer of 1846, and with one of the worst qualities of 1851, from the latter district. The first two sorts yielded quite a different bouquet, of a very pleasant odor, whilst the latter betrayed but too distinctly the year and quality by its unpleasant earthy smell.

Beer also contains a considerable proportion of nitrogen, which can be obtained from it in the same way as from the wine. It is this component from which beer obtains its importance as a nutrient.

The author has, moreover, found, that the coloring matter of wine, and chiefly that of red wine, is closely connected with this nitrogenous compound; that most, and perhaps all, fresh vegetable juices contain nitrogen, and undergo during the process of vegetation, changes which are analogous to the fermentation of wine; that the fragrancy of the vine-flowers, and very likely also the odors of most flowers and leaves are dependent on similar compounds, which are characteristic, and of a peculiar chemical composition in each genus of plants.—*London Pharm. Journ.*, from *Jahrbuch f. pract. Pharmacie*, Bd. xxv., Hft. 1, p. 7.

ON VEGETABLE MUCILAGE, AND SUBSTANCES ALLIED THERETO.

By Dr. Kützing.

Having sliced off with the razor a very thin piece of the white, broad sort of tragacanth, and placed it in a drop of water under the microscope, it swelled up instantaneously, and showed a distinctly cellular structure, and much larger starch-grains than usual. The cells consisted of a very thick membrane, and partly of several concentric layers. The starch grains were round and crowded in the cells, which were but loosely connected, and of various sizes, some of 1-10‴ diameter.

No reaction was produced on the thick cell-walls by tincture of iodine, but the starch grains became blue. On adding one drop of concentrated sulphuric acid, the cells swelled up still more, and the concentric layers became more distinctly visible, and at the same time, assumed a yellow or brownish-orange color. The inner cell-wall now appeared to be coated with a delicate blue membrane, which enclosed the starch-grains in the form of a sac. The starch-grains, by continued application of sulphuric acid, were converted into dextrine, and at last disappeared, as well as the blue membrane, but the thick cells still remained, though they lost the property of becoming orange or yellow by iodine; they remained at last entirely colorless by tincture of iodine, but upon the application of heat also dissolved.

These results induced the author to examine various other gums, and to watch the process of their formation in the plum-tree gum, which exudes from the trees belonging to Drupaceæ, and, by the aid of iodine and sulphuric acid, he discovered that the cellulose of phanerogamic cells are colored blue, while that of all lichens and fungi which he examined, are colored orange or yellowish-brown by the application of sulphuric acid and iodine. All the kinds of natural gums of commerce present the same appearances, but with this difference, that those which contain more bassorine than arabine, present the iodine reaction with the aid of sulphuric acid for a longer time, whereas in gum arabic it disappears sooner. To the phanerogamia, which present a blue coloration, belong cotton, the cells of endive leaves, of cucumbers, and the wood of the cruciferæ.

It is, therefore, manifest that the denomination of cellulose has hitherto been applied, upon the authority of Payen, to two classes of substances, one of which is colored blue by iodine, the other brown. The blue color indicates the presence of starch, or rather of the substance out of which starch is formed, and the brownish-yellow color reminds us of inulin. We may, therefore, divide the mucilaginous and cellular substances into two groups, the one the amylon or starch-group, the other the inulin-group. That inulin is more allied to tragacanthin or bassorin and arabin than to starch, is shown by the fact, that, like arabin, *it* rotates to the left the plane of polarized light. In common with all the substances allied to starch, cellulose, and gum, it is changed into dextrin and sugar by the action of acids.

Group the first includes 1, *starch;* 2, starch-cellulose.

Group the second includes, 1, *inulin;* 2, inulin-cellulose or bassorin.

The author applies the name of *amyl* to the starchy, or amylaceous matter, in order to distinguish it from amylum or starch. Its formula is $C_{12}\ H_{10}\ O_{10}$, and its reaction with tincture of iodine characterizes it. As, according to Mitscherlich, starch cellulose consists of $C_{12}\ H_{1}^{0}\ O_{10}$, the whole difference between *amyl* and starch-cellulose, denominated by the author, *gelin*, is, that the amyl substances are instantaneously colored blue by tincture of iodine, and the gelin-substances only upon the additional influence of sulphuric acid (or of alkalies.)

So also with regard to the second group: the inulin-globules are at once colored orange or brownish-yellow by iodine, whereas the bassorin substances become colored only upon the additional application of sulphuric acid. The lichen-cells in the cortical layer and in the fruit-parts of *Cetraria islandica* consist of true amyl.

In investigating the formation of gum, the author perceived, on breaking off the exudation from a plum, that not only the epidermis, but also the cells of the juicy parenchyma were at this spot in part already decomposed, and in part undergoing decomposition; the result of which is, that unlike those kinds of putrefactions, which are connected with the formation of certain fungi (*Fadenpilze*, *Strubpilze*, &c.) the organic product is a peculiar, hitherto unknown fungus, the *gum-fungus*, or the gum itself. The brown

color of these parts proceeds from the cell-walls, which are partly decomposed and converted into ulmin. The organic structure of the cherry and plum-tree gum, which the author proposes to call *crasinium*, is very distinct, as long as the gum is still in the fruit, or just about issuing from it, but forms a homogeneous mass as soon as it has exuded. On examining the cellular tissue of plums with iodine and sulphuric, acid, it will be found, that the healthy part consists of gelin-cells, whilst the membranes of the affected portion have been converted into a bassorin-substance, which has partially become brown from the presence of ulmin. The walls of the latter portion are, moreover, very thick and loose, so that in those which are near dissolution, a peculiar system of very fine reticulated mucilage fibres can be seen upon close examination. These fibres disengage themselves gradually, but still running parallel to one another, and causing, by swelling, a pressure without; at last they are decomposed into very small molecules, which retain the original position of the fibres. These molecules are the beginning of a new cellular formation; they become larger and now contain one or two new cells, which again contain filial cells [*Tochterzellen*] and so on, until the cells become liquified and the mass exudes. The substance called by Guerin Varry *cerasin*, consists sometimes of such semi-liquified cells. The opinion of Mulder (*Physiol. Chemie*, p. 234,) that all kinds of gum are vegetable secretions and formed of dextrin, is, therefore, refuted, as well as the opinions of Nägeli and others, that a protein substance or nitrogenous "Protoplasma" must form the nucleus for cell formation, and that fungi are characterized by the want of starch.—*Archiv d. Pharmcie* 2 Rheihe, Bd. lxvii., Hft 1, 1851, p. 1. *and Pharm. Journal*, Jan. 1852.

INJURIOUS EFFECTS OF CHEMICAL WORKS ON TIMBER AND GROWING CROPS.

At the Liverpool Assizes, on the 5th inst., the first of four separate actions came on for trial against Messrs. Muspratt & Co., proprietors of the chemical-works at Newton, near Liverpool, for alleged injury done to certain trees growing on the lands of the various plaintiffs, by the noxious gas or vapor proceeding from the defendants' works. A number of respectable agricul-

turists deposed that the estate formerly abounded in beautiful oak, elm, and ash timber; but since the erection of the chemical-works, the tops and shoots of the trees had been killed, the young grasses and crops were withered up whenever the wind blew the vapor from the chemical-works upon them; not a fruit-tree, quickset hedge, or flower-shrub could live; the timber began to decay; when trees were afterward felled, they were found to be in a bad state, and much of the timber that had been left standing had died away, until torn up by the wind from want of vigor. The ravages seemed to have extended to a distance of several miles from the works. Some of the witnesses had noticed the vapor descend, and, on such occasions, every metal article in the houses where it could obtain entrance, even if those articles were bright and polished just before, would become speedily covered with a dull, rusty coating. It appeared that the substances employed by Messrs. Muspratt were chiefly common salt and oil of vitriol, from which was evolved muriatic acid gas, which, combining with the atmosphere, and falling to the earth, destroyed both animal and vegetable life. A great number of experiments had been tried, with a view to remove the destructive effects of the vapor, but they were unsuccessful, and the defendants had to pay compensation to various parties from time to time, for the injury done to their crops; and among those parties were the present plaintiffs. The works having been given up, the question for the jury was as to the actual amount of damage which had been previously caused to the timber, fences and crops of the plaintiffs. Mr. Justice Cresswell thought as the works had been given up, it was a great pity to go on trying actions; and inquired whether there could not be some mode adopted of arranging matters, seeing that the defendants had not sought to set up any question of right. The suggestion of the learned judge, however, was not acceded to by the counsel on either side, and the examination of witnesses consequently proceeded. A compromise of all the actions was, however, finally arranged, the respective plaintiffs agreed to accept £500 pounds each, or a total of £2000, Messrs. Muspratt binding themselves to pull down the works.—*Bost. Med. and Surg. Journal, from Lancet.*

ON CHLOROFORM.

By William Huskisson, Jr.

A process appeared some time since, by Dr. Gregory, on the purification of chloroform by means of sulphuric acid; a short time after its publication, an article was added by Professor Christison, (*in the absence of Dr. Gregory,*) stating that chloroform, purified by sulphuric acid, had speedily undergone decomposition,—had become loaded with chlorine, and thus rendered quite unfit for use,—and that the manufacturer had failed, in almost every instance, in obtaining a permanent article. Since that period, no process for the preparation or the purification of chloroform has been published, except in the pharmacopœia; it has been left entirely to the discretion of the manufacturer. Recently, at a meeting of the Pharmaceutical Society, Dr. Pereira exhibited a specimen of chloroform, which had not only undergone change, but had become of a pink color.

Having prepared chloroform on a large scale, and having had considerable experience in the changes it undergoes when purified by sulphuric acid, the following is the only process by which I have always obtained a permanent article; and one which I have never found, under any circumstances, undergo change or decomposition. I take 130 lbs. of chloride of lime and 7 lbs. of common lime, put them into a capacious still, with sufficient water to make a thin paste; when well stirred together, I then add more water with 25 lbs. of rectified spirit; (*taking care that the still shall not be more than half full,*) lute it down; load it; apply a gentle heat and commence distillation; separate what comes over from the supernatant liquor, and wash it several times with distilled water; *put the washings and supernatant liquor again into the still, with one-half the above quantities, and proceed as before;* then introduce the chloroform thus obtained into an ordinary still, with four or five times its weight of distilled water, with a small quantity of lime; apply heat, and let the chloroform bubble through the water, and pass over; separate the chloroform from the water that comes over with it, by means of a separatory funnel, and agitate it with a little highly dried carbonate of potash, to entirely abstract from it a small portion of water it generally contains.

With regard to the product, there is considerable uncertainty, owing to the great difference in the quality of the chloride of lime employed; it is necessary that the chloride should be rendered alkaline by means of lime, otherwise formic acid is not so readily produced,—it also prevents, in a great measure, the action being so violent when the ingredients are mixed; and the chloroform that passes over is rarely contaminated with chlorine, which is frequently the case when the lime is omitted. I have occasionally added a weak solution of chlorine instead of water, and a larger quantity of lime: but neither by this, nor by any of the other processes I have tried, have I obtained a result so uniform or satisfactory, as by the foregoing. The chloroform, when thus carefully prepared, answers to the following tests: It is exceedingly bright and transparent in any moderate temperature, possessing a highly penetrating aromatic odor; when dropped upon the hand it rapidly evaporates, leaving no faint unpleasant odor behind. It is not affected by litmus or turmeric paper; when dropped into water the greater part immediately sinks, leaving a little floating on the surface, which, after a time, sinks also, imparting a sweetish taste to the water. It has a specific gravity of 1,500, which is the best test of its strength; when agitated with sulphuric acid, the acid becomes colored yellow, the chloroform loses its fine odor and undergoes decomposition, which takes place still more rapidly if allowed to remain in contact with the acid, giving off a gas somewhat resembling hydrochloric. If it contains the smallest amount of alcohol or spirits of wine, on the addition of a little bichromate of potash, and a few drops of sulphuric acid, the green oxide of chromium is formed, which floats on the surface, and, if allowed to evaporate spontaneously, the aldehyd which is formed thereby can be easily recognized. It is miscible with alcohol; if rather more than 13 parts of chloroform and 6 parts of alcohol, (·835 S. G.,) be mixed, they will unite and give a specific gravity of about 1,200, and if more chloroform be added, they will separate. When it contains the smallest amount of water, it will become clouded with every variation of temperature.

It is quite evident that the carbonizing or charring of the volatile oil by concentrated sulphuric acid, which is said to have caused nausea &c., in peculiar sensitive persons (*even when agi-*

tated with the purest sulphuric acid,) has caused decomposition of the chloroform as well as of the oil. It occurred to me, that the sulphuric acid converted the chloroform into formic acid by affording it sufficient oxygen, and the free chlorine combined with hydrogen, thus forming hydrochloric gas. When chloroform has been treated with sulphuric acid, it is usually agitated with oxide of manganese, which decomposes any free sulphurous acid that might be present.

Another remarkable phenomenon in decomposed chloroform, is the formation of a number of crystals round the upper surface of the chloroform, and after the lapse of a few weeks, its becoming a delicate pink color, which is sometimes fugitive, owing, no doubt, to a salt of manganese, most probably a sulphate; and this opinion is strengthened by the fact of its being observable in the following preparations:

When acetic acid is obtained by decomposing acetate of soda by sulphuric acid, the sulphurous acid that is formed passes over with the acetic acid; to remove this mineral acid, it was usual to add oxide of manganese; after a short time, the acetic acid that has been thus deprived of its sulphurous acid will frequently become pink, and deposit pink crystals; also in the preparation of chlorate of potash, if the heat applied to the mixture be too great, and the mixture boils over, the mother liquors will frequently be of a rich pink color. From these results I think we may safely infer, that it is a salt of manganese, like the mineral chameleon, which gives rise to the formation of crystals in, and to the changing color of chloroform, when subjected to Dr. Gregory's process.

I have tested and examined large quantities of Edinburgh and Dublin chloroform, but have never met with any to supersede, or even equal in its general characters, that prepared from the spirit obtained from the best London distillers; I regret that many scientific journals should have stated that the Edinburgh manufacturers have devoted more care and attention to its preparation, and have produced the best chloroform. The fact is, while the London manufacturers were using every effort to cover the actual expenses of materials, &c., to say nothing of profit, owing to the great difference in the duty on spirit or whiskey in England, and Scotland, and Ireland, (*chloroform is admitted free*

of duty into England;) they, in the latter countries, manufactured at a profit, and we at a loss; and the result was, after repeated attempts, the London makers were compelled to give way to their Scotch friends, though not in quality but in price.—*Annals of Pharmacy, Jan.* 1852.

PREPARATION OF PURE METHYL-ALCOHOL.

By F. Wohler.

It is known how very difficult it is to obtain pure methyl-alcohol from crude wood-spirit. The following method, founded upon the crystallizability of the oxalic methyl-ether, appears to be the most convenient for its preparation, at least in small quantities.

A quantity of crude wood-spirit is gradually mixed, so as to prevent over-heating, with an equal weight of concentrated sulphuric acid. The brown mixture is then submitted to distillation, in a tubulated retort, with two parts by weight of superoxalate of potash. It might be advisable to let the mass stand for twenty-four hours before distilling. A volatile and combustible fluid first passes over and is followed by oxalic ether, which begins to condense in the neck of the retort. The receiver is then removed, and the distillation continued, as long as any oxalic ether passes over, the disengagement of which is assisted by gently heating the tube. It is then pressed strongly between folds of blotting-paper and freed from any small quantity of adherent volatile products, either by placing it over sulphuric acid or by a protracted fusion. In this manner it may be immediately obtained quite colorless. The combustible fluid which first passes over contains some diluted oxalic ether, which may be crystallized by evaporation at a moderate heat. The rough wood-spirit employed by me in the experiment was so impure that, when mixed with water, it became milky, and it produced in this manner more than one-quarter of its weight of pure oxalic ether.

In order to prepare methyl-alcohol from oxalic ether it will be best to distil it with water only, which process, it is known, transforms it into oxalic acid and methyl-alcohol. In distilling it with dry hydrate of lime it will not be decomposed, and in distilling it with a concentrated lye of potash its decomposition is only partial, because then a methyl-potash salt is formed, which is most

difficult to dissolve, and which is now under closer examination. —*Phar. Jour. from Ann. d. Chem. und Pharm.*, Bd. lxxxi.

ON THE PREPARATION OF THE SULPHATE OF ALUMINA.

By MM. Huria and Brunel.

Sulphate of ammonia and alumina is placed in shallow earthenware vessels in a drying furnace. When it has lost all its water of crystallization, it is powdered and placed in a cast-iron cylinder, one end of which is closed with an iron cover, which is luted air-tight. From the other end of the cylinder a bent cast-iron tube issues, which is connected with leaden tubes perforated with a number of holes, and lying horizontally in a wooden water-cistern lined with lead; the water must absorb the gas evolved. A safety-tube prevents the rising of the water into the cylinder.

The products of the decomposition of the sulphate of ammonia and alumina are now to be expelled at a cherry-red heat; the sulphate of alumina remains in the cylinder. The sulphite of ammonia that goes over serves again for the preparation of the alum, after being changed into sulphate of ammonia by oxidation in the air. The drying-furnace lies above the furnace in which the cylinder is heated to redness, and is heated by it.—*Bull. de la Soc. d' Encourag.*, 1852, p. 199, *and Chem. Gaz.*, Sept. 15.

ON THE MICROSCOPE, AS A MEANS OF DETECTING THE ADMIXTURE OR ADULTERATION OF DRUGS.

"You are doubtless conversant with the recent very extensive employment of the microscope for disclosing the adulteration of food. No less useful—no less powerful is it in disclosing the contamination of drugs; and I cannot too strenuously recommend you to employ it." Such was the language used by Dr. Pereira, in his introductory lecture on Materia Medica, delivered this year at the Pharmaceutical Society.

Many persons of no mean skill in chemistry, smiled incredulously at the results obtained, when they ascertained that the principal instrument employed by Dr. Hassal, the *Lancet* commissioner, in detecting the adulteration of substances used as food, was the microscope. We confess that we entertained con-

siderable doubt as to the accuracy of the extraordinary revelations that he gave, confidently, to the public in the pages of the *Lancet*. Every person conversant with chemistry was well aware what a useful adjunct the microscope has been to the chemical analyst, in distinguishing the form of minute crystals, and thereby determining their true character, when mixed with organic or inorganic bodies; but few foresaw that it might be employed as a means of analysis itself, in mixtures of organised substances.

In fact, in physiological chemistry, the microscope is preferred to every other resource as a means to detect the presence of minute quantities of organic crystalline compounds in the complex fluids secreted by animals.

Dr. C. G. Lehmann, a very high authority, observes, when speaking of the tests for the detection of urea, that the best method to ascertain its presence, is by the formation of its salts with nitric and oxalic acids, and to submit the salts so formed, when crystallised by the evaporation of their menstruum, to microscopic examination, and thus to ascertain the correct shape of the crystals, "which, if the investigation is to be unquestionable, the acute angles must be always measured;" for, as he farther remarks, that "a good crystallometric determination yields the same certainty as an elementary analysis, which, in these cases, would never or extremely seldom be possible."* These evidences of the value of the microscope as a means of testing by the physical characteristics of a crystalline substance, might be multiplied almost innumerably from the same and other authorities.

However extraordinary the statement may appear, that Dr. Lehmann and others prefer the microscope as the agent by which the composition, or some of the ingredients, of a complex body are to be determined, when those ingredients are crystalline, the results of the investigations of Drs. Hassal and Pereira, and Mr. Quekett, are yet more remarkable and worthy of attention; for they prove that the microscope is the only, or at least the only good means which science has at present discovered to detect the admixture or adulteration of non-crystalline organic substances.

* Lehmann's Physiological Chemistry, vol. i. pp. 150 and 160.

Dr. Pereira first impressed on the attention of pharmaceutists the value of this instrument for discriminating between the numerous varieties of starch which are offered to the public for domestic purposes, under an equal variety of names; but it remained for Dr. Hassal to show its unlimited valuable applications.

The conclusions that may be drawn from the *Lancet* commissioner's laborious researches are, that the solid portions of all organised structures present to the eye, when aided by the microscope, such distinguishing characteristics, that, by an experienced observer, they can be referred to their respective origins; and that when even these portions are in a state of minute subdivision, the form of the cells, the shape of the starch granules, and the condition of the spiral vessels, and other indications, afford an equally accurate result.

To assert that Dr. Hassal has never arrived at an erroneous conclusion in his investigations, would be to ascribe to him something more than human; but to state that his results are surprisingly accurate, would be within the limits of truth; to which statement even the victims, as no doubt they consider themselves, of his indefatigable and ruthless microscopic skill, have repeatedly borne testimony.

As this paper is written for the student, and not for the initiated in these matters, we shall here briefly indicate the method by which skill, when aided by perseverance, may be acquired in detecting the adulteration of drugs, by microscopical observation. It is unnecessary to describe the construction of the microscope, as it is an instrument that most persons are familiar with, and a description of it may be found in many standard works; but it may be observed that the instrument necessary for this purpose should possess a magnifying power from 200 to 400 diameters.

We shall assume, to illustrate the method, that a sample of suspected powdered rhubarb has been taken for examination; but before the investigator can pronounce an opinion, or form a judgment of the suspected sample, it is necessary that he should be well acquainted with the characteristics of powdered rhubarb of authenticated genuineness, which he can readily prepare for himself.

It is by a comparative examination of the genuine and the adul-

terated article, under the microscope, that the presence of foreign substances in the adulterated powder, can be distinguished; because, as previously stated, the form of the starch granules, the shape of the cells of each organic substance, have a character peculiar to themselves, by which their source may be determined.

By a similar process, the question can be answered, when it is thus ascertained that a drug has been adulterated—by what substance or substances has this drug been contaminated?

The investigator will know, from previous experience, those materials which are most suitable for the sophistication of the genuine article, and by rendering himself familiar with their appearances in a pulverized state, when viewed by the microscope, he will readily detect their presence in the adulterated powder, and be able to refer them to their origin. But in this instance, and all others, he must learn the microscopical characteristics of any substance whose detection is desirable, from specimens, the genuineness of which he can vouch for.

To avoid a constant repetition of the examination of every substance, whose microscopical characteristics it may be desirable to be acquainted with, and which are difficult to commit to memory, it will be advisable, for the purpose of reference, to obtain drawings of them, which is most readily and perfectly accomplished by the aid of the camera lucida.

Moreover, it should be borne in mind, that the microscope can never supplant chemical analysis in detecting the admixture or adulteration of such drugs as opium, scammony, and others, which are the concrete juices or exudations of plants; but for powders of barks, roots, leaves, and such organised substances as consist of cellular tissue, ligneous fibre, &c., it is in the highest degree superior to every other known or available means for the discovery of their sophistication.

In conclusion, it may be remarked that, although investigations by the aid of the microscope require less time for their performance, and certainly not greater ability for the acquirement of the necessary skill, than chemical analysis, yet no one can expect to be *au fait* in the application of this instrument for the purposes described, except by the devotion of much time and attention to its study.—*Annals of Pharmacy, Jan.* 1852.

OBSERVATIONS UPON A GENERAL METHOD FOR DETECTING THE ORGANIC ALKALOIDS IN CASES OF POISONING.

By Professor Stas, of Brussels.

Whatever certain authors may have said on the subject, it is possible to discover in a suspected liquid all the alkaloids, in whatever state they may be. I am quite convinced that every Chemist who has kept up his knowledge as to analysis, will not only succeed in detecting their presence, but even in determining the nature of that of bodies, the properties of which have been suitably studied. Thus he will be able to discover conia, nicotine, aniline, picoline, petinine, morphine, codeine, narcotine, strychnine, brucine, veratrine, colchicine, delphine, emetine, solanine, aconitine, atropine, and hyoscyamine. I do not pretend to say that the chemical study of all these alkaloids has been sufficiently well made to enable the experimenter who detects one of them to know it immediately, and affirm that it is such an alkaloid, and not such another. Nevertheless, in those even which he cannot positively determine or specify, he may be able to say that it belongs to such a family of vegetables—the Solanaceæ, for example. In a case of poisoning by such agents, even this will be of much importance. The method which I now propose for detecting the alkaloids in suspected matters, is nearly the same as that employed for extracting those bodies from the vegetables which contain them. The only difference consists in the manner of setting them free, and of presenting them to the action of solvents. We know that the alkaloids form acid salts, which are equally soluble in water and alcohol; we know also that a solution of these acid salts can be decomposed so that the base set at liberty remains either momentarily or permanently in solution in the liquid. *I have observed that all the solid and fixed alkaloids above enumerated, when maintained in a free state and in solution in a liquid, can be taken up by ether when this solvent is in sufficient quantity.* Thus, to extract an alkaloid from a suspected substance, the only problem to resolve consists in separating, by the aid of simple means, the foreign matters, and then to find a base which, in rendering the alkaloid free, retains it in solution, in order that the ether may extract it from the liquid. Successive treatment by water and alcohol of different degrees of concentration, suffices for separating the

foreign matters, and obtaining in a small bulk a solution in which the alkaloid can be found. The bicarbonates of potash or soda, or these alkalies in a caustic state, are convenient bases for setting the alkaloids at liberty, at the same time keeping them wholly in solution, especially if the alkaloids have been combined with an excess of tartaric or of oxalic acid.

To separate foreign substances, animal or otherwise, from the suspected matters, recourse is commonly had to the tribasic acetate of lead, and precipitating the lead afterwards by a current of sulphuretted hydrogen. As I have several times witnessed, this procedure has many and very serious inconveniences. In the first place, the tribasic acetate of lead, even when used in large excess, comes far short of precipitating all the foreign matters; secondly, the sulphuretted hydrogen, which is used to precipitate the lead, remains in combination with certain organic matters which undergo great changes by the action of the air and of even a moderate heat; so that animal liquids which have been precipitated by the tribasic acetate of lead, and from which the lead has been separated afterwards by hydrosulphuric acid, color rapidly on exposure to the air, and exhale at the same time a putrid odor, which adheres firmly to the matters which we extract afterwards from the liquids. The use of a salt of lead presents another inconvenience, viz., the introduction of foreign metals into the suspected matters, so that that portion of the suspected substance is rendered unfit for testing for mineral substances. The successive and combined use of water and alcohol at different states of concentration, permits us to search for mineral substances, whatever be their nature, so that in this way nothing is compromised, which is of immense advantage when the analyst does not know what poison he is to look for.

It is hardly necessary to say, that in medico-legal researches for the alkaloids, we ought never to use animal charcoal for decolorizing the liquids, because we may lose all the alkaloid in the suspected matters. It is generally known that animal charcoal absorbs these substances at the same time that it fixes the coloring and odoriferous matters.

[This is no doubt true; we must not use animal charcoal to decolorize, and then look for the alkaloid in the *liquid*, but we may use it at least in the case of strychnia and some of the non-volatile

alkaloids, to separate them, and then we look for them in *the charcoal.* See notice of Graham and Hofmann's Process for Detecting Strychnia: *Monthly Journal*, August, 1852, p. 140; *Pharmaceutical Journal*, vol. xi., p. 504, May, 1852.]

The above observations do not proceed from speculative ideas only, but are the result of a pretty long series of experiments which I have several times employed for discovering these organic alkaloids. To put in practice the principles which I have thus explained, the following is the method in which I propose to set about such an analysis:—I suppose that we wish to look for an alkaloid in the contents of the stomach or intestines; we commence by adding to these matters twice their weight of pure and very strong alcohol:* we add afterwards, according to the quantity and nature of the suspected matter, from ten to thirty grains of tartaric or oxalic acid—in preference tartaric; we introduce the mixture into a flask, and heat it to 160° or 170° Fahrenheit. After it has completely cooled it is to be filtered, the insoluble residue washed with strong alcohol, and the filtered liquid evaporated in vacuo. If the operator has not an air-pump, the liquid is to be exposed to a strong current of air at a temperature of not more than 90° Fahrenheit. If, after the volatilization of the alcohol, the residue contains fatty or other insoluble matters, the liquid is to be filtered a second time, and then the filtrate and washings of the filter evaporated in the air-pump till nearly dry. If we have no air-pump, it is to be placed under a bell-jar over a vessel containing concentrated sulphuric acid. We are then to treat the residue with cold anhydrous alcohol, taking care to exhaust the substance thoroughly; we evaporate the alcohol in the open air at the ordinary temperature, or still better, in vacuo; we now dissolve the acid residue in the smallest possible quantity of water, and introduce the solution into a small test-tube, and add little by little pure powdered bicarbonate of soda or potash, till a fresh quantity produces no further effervescence of carbonic acid. We then agitate

* When we wish to look for an alkaloid in the tissue of an organ, as the liver, heart, or lungs, we must first divide the organ into very small fragments, moisten the mass with pure strong alcohol, then express strongly, and by further treatment with alcohol exhaust the tissue of everything soluble. The liquid so obtained, is to be treated in the same way as a mixture of suspected matter and alcohol.

the whole with four or five times its bulk of pure ether, and leave it to settle. When the ether swimming on the top is perfectly clear, then decant some of it into a capsule, and leave it in a *very dry place* to spontaneous evaporation.

Now, two orders of things may present themselves; either the alkaloid contained in the suspected matter is liquid and volatile, or solid and fixed. I shall now consider these two hypotheses.

Examination for a Liquid and Volatile Alkali.

We suppose there exists a liquid and volatile alkaloid. In such a case, by the evaporation of the ether, there remains in the inside of the capsule some small liquid striæ which fall to the bottom of the vessel. In this case, under the influence of the heat of the hand, the contents of the capsule exhale an odor, more or less disagreeable, which becomes, according to the nature of the alkaloid, more or less pungent, suffocating, irritant; it presents, in short, a smell like that of a volatile alkali masked by an animal odor. If we discover any traces of the presence of a volatile alkaloid, we add then to the contents of the vessel, from which we have decanted a small quantity of ether, one or two fluid drachms of a strong solution of caustic potash or soda, and agitate the mixture. After a sufficient time, we draw off the ether into a test-tube; we exhaust the mixture by two or three treatments with ether, and unite all the ethereal fluids. We pour afterwards into this ether, holding the alkaloid in solution, one or two drachms of water, acidulated with a fifth part of its weight of pure sulphuric acid, agitate it for some time, leave it to settle, pour off the ether swimming on the top, and wash the acid liquid at the bottom with a new quantity of ether. As the sulphates of ammonia, of nicotine, aniline, quinoleine, picoline, and petinine, are entirely insoluble in ether, the water acidulated with sulphuric acid contains the alkaloid in a small bulk, and in the state of a pure sulphate; but as the sulphate of conia is soluble in ether, the ether may contain a small quantity of this alkali, but the greater part remains in the acidulated watery solution. The ether, on the other hand, retains all the animal matters which it has taken from the alkaline solutions. If it on spontaneous evaporation leaves a small quantity of a feebly-colored yellowish residue, of a repulsive animal odor, mixed with a certain quantity of sulphate of conine, this alkaloid

exists in the suspected matter under analysis. To extract the alkaloid from the solution of the acid sulphate, we add to the latter an aqueous and concentrated solution of potash or caustic soda, we agitate and exhaust the mixture with pure ether; the ether dissolves ammonia, and the alkaloid is now free. We expose the ethereal solution at the lowest possible temperature to spontaneous evaporation; almost all the ammonia volatilizes with the ether, whilst the alkaloid remains as residue. To eliminate the last traces of ammonia, we place for a few minutes the vessel containing the alkaloid in a vacuum over sulphuric acid, and obtain the organic alkaloid with the chemical and physical characters which belong to it, and which it is now the Chemist's duty to determine positively.

I applied, on the 3d of March, 1851, the process which I have described, to the detection of nicotine in the blood from the heart of a dog poisoned by two cubic centimetres [0.78 C.I.] of nicotine introduced into the œsophagus, and I was able in a most positive manner to determine the presence of nicotine in the blood. I was able to determine its physical characters; its odor, taste, and alkalinity. I succeeded in obtaining the chloro-platinate of the base perfectly crystallized in quadrilateral rhomboidal prisms of a rather dark yellow color, and to ascertain their insolubility in alcohol and ether.

I have applied the same process for the detection of conia in a very old tincture of hemlock, which my friend and colleague M. de Hemptinne was so kind as to put at my disposal; and I was equally successful in extracting from the liquid colorless conia, presenting all the physical and chemical properties of this alkali. I was also able to prove that the ether which holds conia in solution, carries off a notable portion of this alkaloid when the solvent is exposed to spontaneous evaporation.

Examination for a Solid and Fixed Alkaloid.

Let us now suppose that the alkali is solid and fixed; in that case, according to the nature of the alkali, it may happen that the evaporation of the ether resulting from the treatment of the acid matter, to which we have added bicarbonate of soda, may leave or not a residue, containing an alkaloid. If it does, we add a solution of caustic potash or soda to the liquid, and agitate it briskly with ether. This dissolves the vegetable alkaloid, now free and re-

maining in the solution of potash or soda. In either case, we exhaust the matter with ether. Whatever be the agent which has set the alkaloid free, whether it be the bicarbonate of soda or potash, or caustic soda or potash, it remains, by the evaporation of the ether, on the side of the capsule as a solid body, but more commonly a colorless milky liquid, holding solid matters in suspension. The odor of the substance is animal, disagreeable, but not pungent. It turns litmus paper permanently blue.

When we thus discover a solid alkaloid, the first thing to do is to try and obtain it in a crystalline state, so as to be able to determine its form. Put some drops of alcohol in the capsule which contains the alkaloid, and leave the solution to spontaneous evaporation. It is, however, very rare that the alkaloid obtained by the above process is pure enough to crystallize. Almost always it is soiled by foreign matters. To isolate these substances, some drops of water, feebly acidulated with sulphuric acid, are poured into the capsule, and then moved over its surface, so as to bring it in contact with the matter in the capsule. Generally we observe that the acid water does not moisten the sides of the vessel. The matter which is contained in it separates into two parts, one formed of greasy matter, which remains adherent to the sides—the other alkaline, which dissolves and forms an acid sulphate. We cautiously decant the acid liquid, which ought to be limpid and colorless, if the process has been well executed; the capsule is well washed with some drops of acidulated water, added to the first liquid, and the whole is evaporated to three-fourths in vacuo, or under a bell-jar over sulphuric acid. We put into the residue a very concentrated solution of pure carbonate of potash, and treat the whole liquid with absolute alcohol. This dissolves the alkaloid, while it leaves untouched the sulphate of potash and excess of carbonate of potash. The evaporation of the alcoholic solution gives us the alkaloid in crystals.

It is now the Chemist's business to determine its properties, to be able to prove its individuality. I have applied the principles which I have just expounded to the detection of morphine, iodine, strychnine, brucine, veratrine, emetine, colchicine, aconitine, atropine, hyoscyamine—and I have succeeded in isolating, without the least difficulty, these different alkalies, previously mixed with foreign matters.

I have thus been able to extract, by this process, morphine from opium, strychnine and brucine from nux vomica, veratrine from extract of veratrum, emetine from extract of ipecacuanha, colchicine from tincture of colchicum, aconitine from an aqueous extract of aconite, hyoscyamine from a very old extract of henbane, and atropine from an equally old tincture of belladonna. Thus it is in all confidence that I submit this process to the consideration of Chemists who undertake medico-legal researches.—*Bulletin de l'Académie Royale de Médecine de Belgique*, tom. vi., No. 2; *Edinburgh Monthly Journal of Medical Science, and Pharm. Jour.*

CHEMICAL RESEARCHES ON CROTON OIL.

By M. Dublanc,

Director of the Laboratory of the Central Pharmacy of the Parisian Hospitals.

The object of these researches was to decide whether croton oil contained an acid, volatile at a moderate temperature; and if so, whether such acid is the active principle of the oil? The author found that when an alcoholic solution of croton seeds was distilled, the distillate possessed no acidity, whilst the residue in the retort was more acid than the expressed oil when treated by litmus paper. He also found the ethereal tincture of croton seeds to be acid. To ascertain if this acid was volatilized by exposure to a current of air, he made the following arrangement: The ethereal tincture was placed in a two-necked bottle, a tube passing through a cork in one neck to the bottom, the other was connected with Liebig's potash tube, containing tincture of litmus, this with a globular vessel containing alcohol, which vessel was connected with the top of a reservoir of water, furnished below with a stop-cock, on opening which a current of air flowed through the arrangement to the reservoir as the water ran out, so as to convey with it the ethereal vapor and any acid that might be volatile. On examining the tincture of litmus and alcohol, no evidence of acid was obtained. A second experiment, in which a much larger quantity of air and the oil arranged under circumstances more favorable for the volatization of any volatile acid should it exist, also failed.

Mr. Dublanc then sought to extract the acid from the oil if pos-

sible. He agitated one part of oil with ten of the alcohol, and allowed it to rest. The alcohol dissolved six per cent. of the oil, and with it the acid, the coloring matter, and part of the pungency. The undissolved oil had taken up fifty per cent. of alcohol. On separating the oil dissolved in the alcohol, it was more viscid, pungent and acid, than the original oil. On the other hand, when the portion not dissolved by the alcohol is treated three times with alcohol, its volume is diminished, and it becomes entirely free from acrimony, and it may be taken in the mouth with impunity, is soluble in all proportions in ether, and has a specific gravity of .92.

These experiments proved that croton oil is not homogenous in its composition. Our author then asks the question, is it possible by further attempts to isolate the active principle from the oily vehicle in which it is dissolved?

To solve this, he agitated four pounds of croton oil with about a pound of alcohol, occasionally for several days. The upper alcoholic layer was decocted, shaken first with water, and the ethereal solution evaporated, giving rise to pungent effluvia, strongly affecting the eyes and nostrils. The oil thus obtained is dark brown, opaque, thick, possessed of strong smell and acidity. Applied to the skin, it causes almost instantaneous pain, followed by a blister. It is soluble in alcohol and ether in all proportions, and when mixed with nine parts of olive oil it is more powerful than ordinary castor oil.

The author infers from these experiments that a little ingenuity will succeed in isolating the active principle of the oil, which he proposes to attempt in future experiments.—*Abridged from Annals of Pharmacy, April* 1852, *and Repertoire de Pharmacy.*

ON THE SACCHARINE STRENGTH OF SYRUP OF IODIDE OF IRON.

By W. Tozier.

According to the authority of M. Guibourt, the most perfect simple syrup consists of 30 parts of sugar to 16 of distilled water, the specific gravity of which syrup is represented by 1·320; for practical purposes, however, double the amount of sugar as of liquid menstruum has been found more convenient, and is now

eligibly adopted in the preparation of the Dublin and London Pharmacopœias. It is a matter of surprise that in this partitioning of the quantities of sugar and water, the syrup under consideration should have formed a remarkable exception to this rule, as there is scarcely another instance amongst those compounds where the conservative character of the compound depends more on its due proportion of sugar. In the Dublin syrup, this deficiency is very perceptible, giving to it an instability of character that detracts much from its value, a matter of no small importance to the dispenser, as he cannot with facility reduce it to his extemporaneous formulary, without incurring a certain amount of trouble and some expense in its preparation, both of which might have been readily obviated by a slight modification of the present formula. This, no doubt, may be referred to a desire of the College to get rid of the inconveniences attending the solution of the sugar, in the second part of the process, by the introduction of simple syrup, and by this means abridge the length of the operation, and to a certain extent divest it of a portion of its complexity; but as this cannot be done without proportionately increasing the liquid portions of the compound, there will be found a perversion of the object, as the resulting syrup is so weak in saccharine strength as to be most favorably disposed to decomposition *in limine*. Indeed, this would scarcely demand to be demonstrated, it is so evident; for as the 6 fluid ounces of simple syrup employed, contain but 5·33 parts of sugar by weight, there will be required 5·33 parts of fluid necessary to bring it up to its required amount, 8 ounces. If we correct this deficiency by reducing this syrup to the saccharine strength of simple syrup, which should properly form the type of these compounds, the 8 fluid ounces indicated should possess, independent of its saline constituent, 7·11 parts of sugar by weight; for as this amount is represented by 1·330 + 8 = 10·64 ounces, the proportions necessary will be 7·11 parts of sugar, and 3.55 of the solution of iodide of iron, to occupy this bulk, showing a deficiency of 1·78 parts of sugar in the present form, which are necessarily made up by the addition of distilled water. In the London formula a similar deficiency is found to exist, but not, however, to the same extent; for were we to ascribe the due amount of sugar to the 15 fluid ounces of

syrup there indicated, we should find that it would be necessary to employ 13·33 ounces by weight, Avoirdupois (12·14 Troy,) in place of the 10 ounces present, for 1·333 + 15=19·9 ounces by weight, or 13·33 sugar +6·66 liquid iodide of iron, assuming the specific gravity of the London simple syrup to be similar to that of the Dublin, which it is very nearly. If we take the Edinburgh formula to represent the true proportion of sugar necessary, the London formula should be represented by 11·25 ounces Troy, in place of the 10 ounces at present employed, and the Dublin by 6 ounces Troy or 6·255 Avoirdupois, in place of 5·33 ounces; but in this there is a deficiency likewise, as the $4\frac{1}{2}$ ounces there should be more correctly represented by 4·85 ounces, or something better than $4\frac{3}{4}$ ounces Troy.

These discrepancies at first sight appear insignificant, and probably unworthy of much attention; however, as accuracy should characterize all our operations, and as the value of a compound very much depends on it, any deviation from this rule, especially in so sensitive a preparation as iodide of iron, seems to a certain extent unwarrantable. When the solution of iodide of iron is treated with double its weight of sugar, it is found to keep admirably well for a considerable period, especially when protected from the air and light, and in a cool situation, taking care in the first instance, after the solution of the sugar is effected, to bring it near its boiling point, and in this state secluded in bottles perfectly air-tight. As these need only contain from two to three ounces each, and can be conveniently kept in stock, there will be less likelihood of their contents spoiling, than when a large quantity of the syrup is kept in a dispensing bottle, the desultory opening of which, from time to time, rapidly produces this change. It might be urged that the amount of salt it contains would necessarily dispose it to crystallization, with the above amount of sugar, and at once frustrate the object of its conservation; this, however, will be found not the case, as it shows no symptom of crystallization under the circumstances, at least, for a very considerable time, which is another important reason for employing this quantity of sugar.

The following formula is suggested as presenting a useful innovation of the Dublin process, as it will be found, owing to the omission of a portion of the manipulation there directed, not to

assume a more complex form, nor less calculated to effect a good product.

Take Pure Iodine,	5 drachms.
Iron turnings, separated by the magnet,	6 drachms.
Distilled water,	3½ ounces.
Powdered sugar,	7 ounces.

Introduce the iodine, iron, and 2½ ounces of water into a glass flask; rotate in the hand for some minutes, until the solution loses its red color and becomes unaffected by cold amidine. Filter the solution in the sugar, washing the residue with the remaining portion of water, and dissolve, by the aid of a water bath.

The above proportions, when combined, will measure exactly 8 fluid ounces; should there, however, be any deficiency, it may be made up by the addition of simple syrup.

The iron, it will be observed, is taken in double the pharmacopœial quantity, as this amount is found to expedite the operation more rapidly, without having undue influence otherwise, while the application of heat during the first part of the process is altogether avoided; as the whole amount of syrup, viz: 8 ounces, contains 233·82 grains Avoirdupois of protoxide of iron, the proportion in each fluid drachm will be found to be 5·21 grains.

The concentrated form is an advantage in a pharmaceutical point of view, as it can easily be reduced to any given strength by the addition of syrup, orange-flower water, or other vehicle, at the will of the practitioner; it is also less likely to spoil, from being less exposed to atmospheric agency. I am disposed to think, that from the number of attempts made to reduce this compound to what might be thought more eligible forms in medical practice, all have failed to realize the test of experience, except this alone; for, chemically and medically considered, I believe it to be a most interesting and valuable preparation for the different objects of its use.

KINGSTOWN.

[NOTE.—The solution of iodide of iron of the United States Pharmacopœia, is also obnoxious to the criticism of M. Tozier on the British formulæ. Twelve ounces (Troy) of sugar are contained in twenty fluid ounces of the solution, a less proportion than in the formulæ of Great Britain. This arose from the idea of retaining the old name "Liquor," which could not have been appended for a thick syrup. Experience proves, however, that although the

protective power of this preparation of sugar is considerable, yet a saturated saccharine solution of the protiodide resists the penetration of the atmospheric oxygen much more effectually. The only objection to the syrupy consistence is a less facility of dropping, a fault too trivial to weigh against the increased protective power given by the additional sugar.—Ed. American Journal of Pharmacy.]

ON THE TESTING OF THE METALLIC SPOTS DEPOSITED BY BURNING HYDROGEN ON PORCELAIN.

By H. Wackenroder.

A new method of distinguishing arsenical and antimonial spots was some time since proposed by Slater. Wackenroder has tried this method, and published the following observations on the mode of determining arsenic by separation from arseniuretted hydrogen.

If the hydrogen gas produced by the action of diluted pure or ordinary purified sulphuric acid upon common zinc be kindled, and the strong current of gas directed against white earthenware, a black spot of lead will be produced by the reduction of the lead-glazing of the earthenware.

If a very strong current of hydrogen gas be developed, and no deposit of metal takes place from its flame upon porcelain, we may feel perfectly sure of the purity of the gas.

But if muriatic acid be employed instead of sulphuric acid for the production, or if any chloride exists in the fluid used, metallic spots may be formed during the rapid evolution of the gas, which however are only spots of zinc. They are distinguished in this manner, that on pouring over them diluted muriatic acid, they rapidly disappear, and that they are also readily removed by means of hypochlorite of soda.

To avoid error, it is also necessary that no nitric acid or sulphuret be present in the apparatus used in the development of the gas, which may be best formed of a two-necked bottle with a funnel-tube and a tube bent at right angles and drawn to a point, for the passage of the gas. The nitrous acid formed in the one case readily decomposes antimoniuretted and arseniuretted hydrogen gas, whilst a sulphuret readily causes the formation of some sulphuretted hydrogen gas, by which the spots of arsenic and antimony receive more or less of a reddish or yellowish color.

Granulated zinc with dilute sulphuric acid evolves hydrogen gas

better than pieces of crystalline zinc. The evolution of gas, however, easily becomes so violent that it must be moderated by the addition of water. When it has gradually become weak, it may be remarkably enlivened, frequently even to a most violent degree, by the addition of a small quantity of a solution of arsenious or arsenic acid. This circumstance must therefore not be neglected in the employment of Marsh's apparatus in judicial investigations.

1. *Arsenical Spots.*—When sufficient hydrogen gas has been generated to expel the atmospheric air from the bottle, the fluid or substance (such, for instance, as a piece of green paper) which is to be examined for arsenic, is introduced into it. If there be a funnel-tube to the flask, the addition of small quantities of the liquid to be examined to the sulphuric acid employed to generate the gas is readily effected by stopping the gas-tube with the finger, so that as much acid rises into the funnel as it can hold. The arsenical spots produced on the porcelain are rapidly dissolved by pouring over them hypochlorite of soda, and the porcelain becomes perfectly clean; on the other hand, the spots do not disappear on being poured over with dilute muriatic acid. If the spots of arsenic be shining, and consequently proportionately thick, the hypochlorite of soda is somewhat longer in effecting their solution, which however it always does in a period of not more than a few seconds.

2. *Antimonial Spots.*—If a little tartar-emetic (or any other compound of antimony) be added to the mixture of zinc and sulphuric acid in the flask, antimoniuretted hydrogen is immediately given off with the hydrogen. Whilst the spots on the porcelain are still faint and of a dull appearance, they are acted upon, after some time, by hypochlorite of soda, in such a manner that they become gradually indistinct, rather by being washed off by the alkaline fluid, than in consequence of becoming dissolved in it. But if the antimonial spots be black and shining, and consequently more firmly fixed on the porcelain, they completely withstand the action of both hypochlorite of soda and diluted muriatic acid, but are quickly dissolved by a mixture of the two liquids.

3. *Arsenical Spots containing Antimony, and Antimonial Spots containing Arsenic.*—If any arsenical fluid containing antimony

be introduced into the gas apparatus, the spots on the porcelain at first contain principally only arsenic, apparently in consequence of the antimony being less volatile; but if shining spots be produced on the porcelain, which contain more antimony, these resist the action of hypochlorite of soda in a greater or less degree, and are often only eaten away round the edges.

Small quantities of antimony in the arsenical spots render these strong and more shining, but do not prevent their solution in hypochlorite of soda. The hypochlorite of soda may therefore be used with the greatest certainty in distinguishing purely arsenical from purely antimonial spots, which indeed is the principal point in judicial investigations, but not in detecting a trace of antimony in arsenical spots; it also serves in some measure to detect traces of arsenic in antimonial spots. It might be possible, but probably useless in practice, to ascertain by comparative investigations the quantitative proportions of arsenic and antimony at which distinct differences occur in the behaviour of mixed metallic spots with hypochlorite of soda.—*Chemical Gazette, Aug.* 2, 1852, *from Archiv der Pharm.*, lxx. p. 14.

PREPARATION OF PURE FATTY ACIDS FOR THE MANUFACTURE OF CANDLES BY THE DISTILLATION OF COMMON FATS.

At the last Conversazion, held at the house of the Pharmaceutical Society, a series of specimens were exhibited illustrating the process adopted at the works of Price's Patent Candle Company for obtaining a white and hard fatty substance, suitable for the manufacture of the best description of candles, by distillation from palm oil and other cheap fats. The following description of the details of the process is given in the "Reports of the Juries" of the Great Exhibition.

Sulphuric Saponification.—About twenty tons of fat, say palm oil, are placed in a large lead-lined vat, and fused by a steam jet. The fluid mass, after being allowed to settle, has now to be exposed to the combined action of concentrated sulphuric acid and heat, and for this purpose is pumped up into the acidifying vessel, in which its temperature is raised to 177° Cent. (350° Far.). The means of heating is a jet of low-pressure steam, which, in its course

from the boiler, passes through a series of iron pipes heated in a furnace. The quantity of acid used is in the proportion of 6 lbs. for 112 lbs. of palm-oil. In this operation the palm-oil is decomposed and becomes much blackened. Withdrawn at that period it is seen that an important change has been effected by the action of the acid, as the mass now readily crystallizes to a tolerably solid fat. The fat is now drawn off from the acid and transferred to the washing-tank, where it is boiled up with water by means of a steam-jet.

Distillation.—After one or two washings the blackened fat is withdrawn and pumped up to the supply-tank, which commands the stills. The stills, which are made of copper, are heated by an open grate; each still is capable of holding five tons of fat. When charged, the temperature is raised to 293.5° Cent. (560° F.), and low-pressure steam passed through the mass. This steam is previously heated by passing through a system of iron pipes placed in a furnace.

The current of steam carries with it the vapor of the fatty acids, and thus facilitates the process. The mixed vapors of fatty acids and waters pass together to a series of vertical pipes, which retain a temperature above 100° Cent. (Cent. 212° F.), where the fats only condense while the steam passes to a second refrigerator, cooled by a current of water; here it is condensed along with the minute quantity of fat carried over by it. A separating tank, from which the water escapes at the bottom, whilst the fats float on the top, serves to remove this small quantity.

Distillation of the Residue.—After continuing the distillation for a certain period, the residue in the still is transferred to another still, formed of iron pipes, set in a furnace, and there submitted to a much higher temperature, and a jet of steam more strongly heated. The residue left in these iron stills is a sort of pitch, and is applied to the same use as ordinary pitch. By this means an additional quantity of fatty acids is obtained.

The fatty acids, as they run from the still, are used to a great extent for the manufacture of candles, without pressing, and form what are called *composite candles*, which possess all the advantages of being self-snuffing, but are more fusible and softer than the pressed stearic acid candles.

A large proportion of the distilled fats, however, is pressed, to make a better sort of candle, and for this purpose fifty hydraulic presses are employed.

Cold-Pressing.—The fats are spread by ingenious machinery on woven mats, and submitted to powerful cold-pressure between iron plates; the oleic, or metoleic acid runs out, and is collected, and chiefly exported to Germany, where it is employed in soap-making.

Hot-Pressing.—After cold-pressing, the fat acids are subjected to hot pressure in hydraulic presses, confined in a chamber heated by steam. The pressed cakes, after the removal of the edges, are melted in contact with a little diluted sulphuric acid, and run into blocks. When the reporters visited the works the Company were distilling at the rate of 130 tons of palm-oil per week.

Pressed cocoa-nut oil is largely employed to mix with the pressed acids of palm-oil to make the best composite candles.

Price's Candle Company is the most colossal establishment in the world in this branch of chemical manufacture; possessed of five distinct manufactories, besides plantations of cocoa-nut trees in Ceylon, of a capital but little short of half a million sterling, and employing, notwithstanding the best arrangement for economising labor, 800 workpeople, it is not surprising that they divide annually in profits between £40,000 and £50,000.—*Pharmaceutical Journal*, Sept. 1852.

ON THE PRESENCE OF IODINE IN VARIOUS PLANTS, WITH SOME REMARKS ON ITS GENERAL DISTRIBUTION.

By Stevenson Macadam, Esq.

The Chemical Gazette of August 2d, 1852, contains an article under the above caption, extracted from the proceedings of the Botanical Society of Edinburgh, for July 8th, preceding, from which we extract the following:—

Mr. Chatin, of Paris, believes that the atmosphere, rain-water and soils contain iodine in an appreciable amount; that its proportion varies with the locality; and that its proportion in the atmosphere is related to the presence or absence of certain diseases. As an example, in the Swiss vallies goiter and cretinism are fre-

quent, whilst the proportion of iodine in the atmosphere is only one tenth of that in the neighborhood of Paris, where these diseases rarely exist. The interest and importance of Mr. Chatin's statements, should they be corroborated, induced Mr. Macadam to investigate the subject as regards Scotland both in relation to the atmosphere and the plants.

He commenced with the atmosphere; he caused the air to traverse, 1st, a tube containing slips of starch paper; 2d, a two necked gas-bottle containing about 3 ounces of a solution of caustic soda, during several hours of the morning, and the process continued in the afternoon with a solution of caustic potash. The starch papers did not exhibit the slightest coloration even when moistened; the solutions of potash and soda, however, on being treated with starch and nitric acid, at once exhibited the rose colored characteristic of the presence of iodine in small quantity. When, however, portions of the alkaline solutions not subject to the action of the air were tested, the same evidence of iodine was obtained. Hence, the necessity of a new experiment to guard against this difficulty.

He now passed the air through a tube filled with slips of damp starch paper; then through a gas bottle immersed in a freezing mixture; and lastly a gas bottle containing a solution of nitrate of silver. A continuous current of air was drawn through this arrangement during five hours, commencing at mid-day. At the conclusion, the papers were not altered in the slightest degree: the first gas bottle contained a quarter of an ounce of liquid, which gave no evidence of iodine to the most delicate tests, and the solution of silver had not been apparently changed, and did not give evidence of the slightest trace of iodine on the application of the most rigid tests.

The failure of these experiments, which were made at different heights on Arthur's Seat, led Mr. Macadam to make a more extended and complete trial at the Kinneil Iron Works at Borrowstowness, where the proprietor kindly offered every facility, by allowing the author to attach his apparatus to the blowing machine furnishing the blast to the furnaces under great pressure. Under these circumstances a rapid current of air was passed through a tube with starched paper; a condensing worm cooled by a freezing mixture and attached to a receiver, a tall jar containing chips of

pumice-stone and a few iron filings with sufficient water to cover them; a similar jar with pumice-stone, scrapings of clean lead, and solution of acetate of lead; and lastly, a condensing worm immersed in a freezing mixture and attached to a receiver. Air, under a pressure of 3 lbs. per square inch, was allowed to traverse this arrangement for four hours. It was then taken apart and examined. The slips of paper were not sensibly altered. The condensers contained a small quantity of liquid, which did not offer the slightest evidence of iodine to the most delicate tests. The contents of the jar containing iron filings was thrown on a filter, washed with cold water, half an ounce of solution of pure carbonate of potash added, and the whole evaporated to a quarter of an ounce and tested. No iodine was present. Lastly, the jar with lead scrapings was searchingly tested without any indication whatever of iodine. This experiment proved that 4000 cubic feet of air contained no appreciable iodine.

Mr. Macadam then sought for iodine in rain-water, and in several trials with three gallons each, was unable to detect any trace of that element, even from rain-water collected for him at the Shetland Islands where a constant marine atmosphere prevails. He therefore infers that even if the atmosphere of the ocean does contain iodine carried up mechanically in saline form during evaporation, it must be in quantity too minute to be detected.

The author now recurs to the existence of iodine in the potash of commerce as shown in his first experiment. He examined various specimens of the commercial alkali used in Edinburgh and Glasgow, which were derived from the United States, and Canada, and found that they all afforded iodine when examined. Our author infers that as the potashes from America are derived from the ashes of forest trees, that iodine must pre-exist in these trees, a belief rendered much more probable, when he was able to detect it in charcoal prepared in Scotland, from oak, elm and ash.

Mr. Macadam infers that the proportion of iodine in forest trees is extremely minute, because the weight of the potash they yield is small compared with their weight, and this contains only a very small amount of iodine. He also believes that succulent marsh growing plants are much richer in this element than trees.

Mr. Macadam made a number of experiments on plants growing

in the locks near Edinburgh, to ascertain whether they contained iodine. The plants were dried carefully, reduced to charcoal with the lowest heat compatible with the complete destruction of the organic matter, the residue reduced to fine powder, lixiviated by digestion in water, and the clear liquid evaporated. In every case Dr. Price's process was employed for detecting the iodine, viz: with nitrite of potash and hydrocbloric acid.

Mr. Macadam has detected iodine in the following plants not previously known to contain it, viz:

Myosotis palustris,	Ranunculus aquatilis,
Mentha sativa,	Potamegeton densus,
Menyanthes trifoliata,	Chara vulgaris,
Equisetum limosum,	

And has confirmed its presence in:

Iris pseudo-acorus,	Phragmites communis,

and in the ashes of coal.

As having some connection with the subject treated of, the author indicated that he had obtained distinct indications of the presence of bromine in the crude potashes. It is unfortunate that our tests for bromine are so much inferior in delicacy to those of iodine that it is necessary to operate upon very large quantities before the tests are distinct. There is no doubt that from its presence in trees it will be found in greater abundance in the more succulent plants; but the few trials yet made have been unsuccessful in determining its presence in any but crude Canadian and American potashes.

[This statement of Mr. Macadam, that he was only able to find bromine in American and Canadian potashes, may probably be explained by the fact that the American potash manufacturers are much in the habit of adding common salt to their ashes before leaching them, as well as to the potash kettle during the final fusion of the crude alkali, ostensibly for the purpose of *rendering it purer* and more fusible, but practically because it increases its weight. The result of its use is that a considerable portion of potash is converted into chloride of potassium, whilst the soda base of the common salt becomes carbonate of soda; thus materially injuring the article in commercial value. Now it is well known that many if not all the salt springs of the interior of New York, Pennsylvania and Virginia, contain bromide of sodium, often in such quantity as to be largely employed for extracting bromine. Now, may not the common salt derived from this source, and which is used by the makers of potash, *be the origin of the*

bromine of the American Potashes? In connection with this subject it will be an interesting point of research to seek for bromine in commercial salt from our salt springs, as well as in the sait manufactured from sea water. —Editor Amer. Jour. Pharm.]

ON THE LEAVES OF ARCTOSTAPHYLOS UVA-URSI.

By A. Kawalier.

The following observations on the leaves of Arctostaphylos Uva-Ursi contain the results of experiments performed by Kawalier, in the laboratory of F. Rochleder.

The watery decoction of the leaves yields with a solution of sugar of lead a precipitate, which consists of nearly pure gallate of lead. The liquid filtered from the lead was distilled in a retort to the consistency of a syrup, and a small quantity of precipitated salt of lead removed by filtration. The filtrate was then deprived of the lead by sulphuretted hydrogen, and evaporated at a heat below the boiling point. After a few days a substance known by the name of *arbutin* crystallized from it in the form of needles.

Purified by recrystallization it is in long, thin, colorless, bitter prisms, which dissolve in alcohol, in ether, and in water, fuse when heated, and solidify into an amorphous mass. In the air-dried condition the crystals of arbutin were composed of $C_{23}\ H_{24}\ O_{21}$. When dried at 100°C., the formula is $C_{32}\ H_{22}\ O_{19}$, the crystals retaining their shape unaltered. Dissolved in water with emulsin they become decomposed. If the liquid be evaporated and the residue treated with ether, a substance is dissolved by the latter, which, when the ether is removed by evaporation, remains behind in a crystallized state. This is *arctuvin*. This residue treated by ether contains grape-sugar, which is separated from the emulsin by alcohol, and purified by recrystallization from water. The formula of arctuvin is $C_{20}\ H_{10}\ O_7$. Air-dried arbutin $= C_{20}\ H_{10}\ O_7 + C_1\ H_{14}\ O_{14} = C_{32}\ H_{24}\ O_{21}$. Arbutin dried at 100° C. $= C_{20}\ H_{10}\ O_7 + C_{12}\ H_{12}\ O_{12}$.

The arctuvin can be obtained by recrystallizing it from spirit of wine and water, and treating the solution with animal charcoal in the form of four-sided, colorless, bitter sweet acicular crystals, of four to six inches in length and two to three inches in width. From diluted aqueous solutions, which have not been completely

decolorized, it is obtained in the form of brown crystals, one inch in length and half an inch in thickness. According to its composition it may be considered as the product of oxidation of a substance, the composition of which is equal to that of camphor.

$$\underbrace{C_{20}\ H_{16}\ O_2}_{\text{2 equiv. of camphor.}} + O_5\ H_5 = C_{20}\ H_{10}\ O_7.$$

A watery solution of the crystals, mixed with a solution of chloride of iron, asumes an indigo-blue color; after a few seconds this changes to green, and then to brownish-yellow. This reaction indicates a connection with the salicyle group and the arcturin might perhaps be concidered as a salicylite of the oxide of ethyle, combined with the elements of oxalic acid.

$$C_{20}\ H_{10}\ O_7 = C_2\ O_3 + C_4\ H_5\ O + C_{14}\ H_5\ O_3.$$

It is well known that *Gaultheria procumbens* (fam. of Ericineæ) contains salicylate of the oxide of methyle in combination with a substance at present unknown. Arbutin brought in contact with the vapour of ammonia and with atmosphere air assumes a slightly blueish color. In contact with the atmosphere and ammonia it becomes black. The ammoniacal compound thus formed is composed of

$$C_{20}\ H_{10}\ N_3\ O_{20}.$$

Arctuvin is very easily changed by oxidizing bodies, and colored brown by a mere cold solution of bichromate of potash.

Besides gallic acid the leaves of uva-ursi contain also fat, wax, and chlorophylle, a small proportion of sugar, traces of an ethereal oil, and small proportions of a substance which, if heated with diluted sulphuric or muriatic acid, yields an ethereal oil, which readily attracts oxygen from the air and becomes dark colored. This oxydized oil has the formula $= C_{20}\ H_{16}\ O_5$. In addition to these substances the aqueous extract of the leaves contains also a resinous substance, which is obtained by heating the extract with sulphuric or muriatic acid, and purifying by solution in alcohol and precipitation with water. Its composition corresponds with the formula $C_{80}\ H_{34}\ O_{30} = H\ O.\ C_{80}\ H_{64}\ (= 8\ C_{10}\ H_8) - H_{30} + O_{30} + C_{80}\ H_{34}\ O_{30}$.—*Pharm. Jour. Oct.* 1, 1852, *from Annalen d. Chem und Pharm.*, May, 1852, p. 241.

IMPROVEMENTS IN THE MANUFACTURE OF POTASSIUM.

By MM. Mareska and Donny.

The process ordinarily employed in the manufacture of Potassium, is that invented by Brunner, which consists in exposing to a very great heat, an intimate mixture of charcoal and carbonate of potash, the produce of the calcination of crude tartar. Experience has shown that a given mixture of this kind, does not invariably yield the same quantity of potassium, notwithstanding the greatest care which may be taken.

The operation, often a very unproductive one, is also attended with many dangers and difficulties, arising from obstructions in the pipes, caused by deposits of carburetted products; obstructions which often occasion disastrous explosions. The attention of MM. Mareska and Donny having been called to these points, they have endeavored to ascertain the defects of the present process, and to suggest suitable remedies.

Their attention was first directed to the action which potassium suffers from the carbonic oxide, which is formed in the manufacture. It was well known that carbonic oxide, which has no action on potassium at a bright red heat, has a very powerful effect on it at lower temperatures; but MM. Mareska and Donny have shown, by a very simple operation, that when a mixture of carbonic oxide and potassium vapor is collected in a *large* receiver, kept *quite cool*, the potassium does not condense in a metallic state, but that a carburetted product is formed, from whence the metal cannot be obtained by simple distillation.

In Brunner's process, the potassium set at liberty by the reaction of carbon on carbonate of potash, is condensed in the tube placed intermediary between the retort and the receiver, or in the receiver itself, or else it is carried off by the gases out of the apparatus.

The result therefore is, that, in Brunner's process, the chief quantity of potassium must be lost, only a small portion being saved, which, being condensed in the tube, continues sufficiently fluid to run into the receiver, the portion which solidifies in the tube being there exposed to the contact of carbonic oxide, forms carburetted products, and thus becomes, as already noticed, the source of insurmountable and oftentimes very dangerous explosions.

That part which continues in a state of vapor when it reaches the receiver, and which afterwards condenses, is also lost; for the researches of MM. Mareska and Donny have shown that it passes completely to the state of a black substance not reducible by heat.

To prevent these obstructions, it has been recommended that the intermediary tube should be made as short as possible, and M. Mitscherlich adds to this recommendation the useful advice, to maintain it at a red heat up to the point of its connection with the receiver, in the hope that the metal would condense in the less heated part of the tube, and run, drop by drop, into the receiver. MM. Mareska and Donny observe, that by limiting to a sufficient extent the condensing surface of the pipe, we may effectively diminish the space in which these obstructions occur, and the difficulty of overcoming them by means of the iron rod with which the apparatus is furnished; but we cannot, by these means, entirely remove the difficulties, because, however limited may be the portion of the tube where the metal is condensed, we cannot prevent a part from passing to a solid state, remaining so, and by becoming carburetted, forming a source of obstruction.

Again, nothing is more difficult than to maintain, at a sufficiently low temperature, the lower part of a metallic tube, the remainder of which is kept at a red heat. The greater part of the potassium reduced, escapes in the state of vapor the whole length of the tube, and, on arriving in the receptacle, is lost.

From these facts, MM. Mareska and Donny conclude, that the only means of entirely avoiding the obstruction, and diminishing the loss of potassium, consists in abandoning the idea of effecting the condensation of the potassium vapor in the intermediary tube of Brunner's apparatus, and the substitution (for this receiver which condenses nothing, or which condenses only carburetted potassium) of a receiver in which the vapor solidifies in the metallic state, and in which the metal can, as much as possible, be protected from the alteration which carbonic oxide causes it to undergo. The condensation no longer taking place in the tube, this may be kept, throughout its entire length, at a temperature at which the action of carbonic oxide is impossible.

After having tried a great number of receivers, MM. Mareska and Donny have adopted the following construction, as best answering the purpose required :—

They adapt to the connecting pipe, a kind of elongated and flattened box, open at the two ends, one of which terminates in a round collar, to permit of its being applied to the intermediary or retort pipe. This box is formed of sheet iron of the thickness of four millimetres. Its length is thirty centimetres in the clear.

Amongst the other causes which exert an influence on the progress of the operation, and which have escaped the attention of chemists, MM. Mareska and Donny call attention to the relative quantities of charcoal and carbonate of potash in the mixture from whence the potassium is obtained.

The most suitable proportions, and which occasion no inconveniences during the process, are those indicated by the theory of equivalents. Before proceeding with the extraction of the metal, it is of importance that an analysis of the charcoal of the tartar should be made; and if this is found not to contain the exact quantity of carbon required for the reduction of the metal, white cream of tartar must be mixed with the crude tartar, and the mixture varied until the calcined product obtained, furnishes the required proportions.

The calcination of the bitartrate should be made in vessels quite impermeable, and in which the cooling may be effected without contact of air, in order to avoid the formation of cyanide of potassium, which is also another source of loss.

All who are employed in the manufacture of potassium, know the inconveniences attendant on the employment of clay luting. M. Dumas has decidedly rejected its use.

Nothwithstanding the heat necessary for the reduction of the metal is such that, spite of the most minute precautions, an operation is scarcely ever completed without the breakage of the retort, MM. Mareska and Donny have succeeded in avoiding the inconveniences arising from the employment of clay luting, and preventing the destruction of the retorts, by running on them, when they are at a dull red heat, a quantity of borax, sufficient to coat them with a vitrifiable varnish.

By following out in practice the method thus described, MM. Mareska and Donny have succeeded in obtaining a considerable increase in the quantity of metal produced, and have obtained from 150 to 200 grammes of potassium at each operation. They possess a specimen of 400 grammes of pure metal, in pieces of 50 to 60 grammes each; this specimen was the result of three operations.

These gentlemen are now investigating the most efficient modes of purifying this metal;—a metal which has rendered important service to science, and which bids fair to be of still greater value, if efficient means could be devised for obtaining it at a cheaper rate.

In conclusion, they are of opinion that the modifications above suggested in Brunner's process, are not the only ones of which it is susceptible ; but they feel convinced that no important improvement can be effected, except by close adherence to the principles above laid down ; that is to say, by renouncing the use of spacious receivers,—ceasing to condense the vapors in the retort tube,—and observing closely the precautions above pointed out.—*Annals of Pharmacy, Feb.* 1852.

ACCIDENTAL SUBSTITUTION OF EXTRACT OF BELLADONNA FOR EXTRACT OF DANDELION.—PROSECUTION OF THE MANUFACTURER.

The *New York Journal of Pharmacy*, for November, contains the report of a trial—Samuel Thomas, jr., and Mary Ann Thomas his wife, against Hosea Winchester—in the Court of Appeals. Ruggles, Chief Judge. It appears that the so-called extract of dandelion was manufactured for the defendant by A. Gilbert, whose name appeared on the label, but that by some error in putting up the article, a jar of extract of belladonna was inadvertently substituted for one of dandelion. The defendant sold it to Jas. S. Aspinwall, druggist, New York, who in turn sold it to Dr. Foord, a physician and druggist of Cazenovia, Madison county, who furnished it to plaintiff, for his wife, on the prescription of her physician.

"The defendant, on the trial, insisted that Aspinwall and Foord were guilty of negligence in selling the article in question, for what it was represented to be in the label; and that the suit, if it could be sustained at all, should have been brought against Foord. The Judge charged the jury that if they, or either of them, were guilty of negligence in selling the *belladonna* for *dandelion*, the verdict must be for defendant, and left the question of their negligence to the jury, who found on that point for the plaintiff. If the case really depended on the point thus raised, the ques-

tion was properly left to the jury. But, I think it did not. The defendant, by affixing the label to the jar, represented its contents to be *dandelion*, and to have been "prepared" by his agent, Gilbert. The word "prepared" on the label must be understood to mean that the article was manufactured by him, or that it had passed through some process under his hand, which would give him personal knowledge of its true name and quality. Whether Foord was justified in selling the article upon the faith of the defendant's label, would have been an open question in an action of the plaintiff's against him; and I wish to be understood as giving no opinion on that point. But it seems to me to be clear, that the defendant cannot in this case set up as a defence that Foord sold the contents of the jar as and for what the defendant represented it to be. The label conveyed the idea distinctly to Foord that the contents of the jar was the extract of *dandelion*, and that the defendant knew it to be such. So far as the defendant is concerned, Foord was under no obligation to test the truth of the representation. The charge of the Judge in submitting to the jury the question in relation to the negligence of Foord and Aspinwall, cannot be complained of by the defendant.

Judgment Affirmed. H. R. SELDIN, *State Reporter.*"

The original verdict against Winchester was $800, the cost of appeal, &c., swelled the amount to near $1400, which was paid by Winchester.

GROWTH OF CELLS IN PLANTS.

The whole process which is called growth in plants consists, in its essential elements, of a continuous propagation of cells, called secondary or daughter cells, whence the number of cells become multiplied beyond credibility. From an approximate calculation, for example, in a rapidly growing fungus, the *Bovista gigantea*, 20,000 new cells are formed every minute.

Varieties.

On the Inspection of Drugs at the Port of New York, By Dr. J. M. Bailey, Special Examiner.

New York, September 25, 1852.

Mr. George D. Coggeshall.

Dear Sir,—Your kind and courteous favor of the 16th instant, on behalf of the Publishing Committee of the New York Journal of Pharmacy, asking "information respecting the character of imported drugs and medicines coming under my supervision; and also, information in reference to the general working and effect of the drug law of 1848," has been before me for several days, waiting such response, in the shape of a full and lengthy communication in detail, as it was my wish to furnish; but pressing and increasing official duties compel me, from want of time (not material,) to forego that pleasure and confine myself to a brief statement of facts and data, which, together with some general observations, I am in hopes may nevertheless, be found interesting to your readers.

As an evidence of the beneficial effects of the wise sanitary measure, in the success of which we have, all taken so much interest, I am pleased to say, that the character and quality of the more important articles of drugs, medicines and chemical preparations, connected with medicine at present presented for entry from abroad, is greatly improved, and of a far higher standard of strength and purity than formerly; notwithstanding, as will be seen, I still have occasion to apply the "veto power"—a labor of love, which must, of necessity, be performed in order to arrest the unhallowed strides of deception and fraud which will ever be practised, to a greater or less extent, as long as we have those among us, engaged in any department of the drug trade, who, to put money in their purse, would endanger, if not sacrifice, the lives of their fellow men. The law in question has now been in operation at this port something more than four years; and, with the exception of some eleven months, the duties and responsibilities of its administration have devolved upon me. On the 21st day of April, 1849, I made a report to the New York Academy of Medicine, on the practical operation of this law, and stated therein the more important articles of drugs and medicines, with the quantities annexed, rejected by me up to that date; but as that report is doubtless familiar] to most of your readers, I have not deemed it necessary to repeat them here. The following are the more important articles, with the quantities annexed, that I have since rejected and condemned as not of the requisite strength and purity to be safely and properly used for medicinal purposes, viz:—

Senna,	31,838 lbs.
Jalap root	37,121 "
Rhubarb do.	5,782 "
Sarsaparilla,	65,374 "
Mezereon bark,	1,353 "
Opium,	3,164 "
Kino,	230 "
Scammony,	1,483 "
Aloes,	12,375 "
Squills,	1,626 "
Spurious Peruvian bark,	304,135 "
Spanish Saffron,	360 "
Ergot,	475 "
Chamomile flowers,	1,896 "
Assafœtida,	3,700 "
Worm seed,	230 "
Colchicum seed,	2,246 "
Valerian root,	650 "
Guaiacum,	9,300 "
Cream of Tartar,	7,673 "
Magnesia, (carb.)	2,867 "
" (calc'd.)	1,560 "
Althea root,	1,117 "
Liquorice root,	9,430 "
Bistort root,	140 "
Gentian root,	7,572 "
Do. do. in powder,	430 "
Lavender flowers,	3,042 "
Poppy flowers,	190 "
Hellebore root (white,)	460 "
Pareira Brava root,	730 "
Cantharides,	1,276 "
Creosote,	140 ozs.
Bromine,	430 "
Sulphate of Quinine,	3,200 "
Iodine,	6,864 "
Hydriodate of Potass,	3,720 "

Making altogether some five hundred and twenty thousand pounds, to say nothing of various articles in small quantities rejected from time to time, which I have not considered of sufficient importance to note down. This, together with the ninety thousand pounds previously rejected, as stated in an early report above alluded to, makes some six hundred and ten thousand pounds of various articles of drugs and medicines condemned by me as unfit for medicinal purposes since the law took effect at this port. What articles and in what quantities, were rejected during the eleven months

that I was absent from the office, I am not advised, neither am I at this time able to say what has been done under the requirements of this act at the other ports of entry. I hope, however, that the special examiners can give a good account of their stewardship, and that they will not hesitate to do so, whenever the information is desirable as a means of pushing on the column of medical and pharmaceutical reform.

It will be seen by the above statement, that by far the largest quantity of any one article rejected, is that of spurious Peruvian bark, or, as it is generally known in commerce, Carthagena and Maracaibo bark: and that, too, as a general thing, of the poorest and most worthless quality. The best of this bark affords on analysis only an exceedingly small per centage of quinine, not unfrequently but a mere trace; while, at the same time, it yields as high as two, and occasionally, with choice samples, two and a half per cent. of a *peculiar* alkaloid, which has been named *quinidine*, in contradistinction to quinine, cinchonine, and aricine, (the three alkaloids heretofore obtained from the different varieties of the cinchona tribe of plants,) from which it differs essentially in several respects.

What *is quinidine medicinally understood?* How does *sulphate* of quinidine *compare with sulphate of quinine* (from which it is very difficult to distinguish it by the naked eye, medicinally, as a remedial agent in cases where the use of the latter salt is particularly indicated? These are important questions, and the subject is one very properly at the present time calling for prompt, patient, and persevering investigation by all those whose mission it is to prepare, dispense or prescribe the most efficient means wherewith to combat disease; the more so for the reason, that I have detected in most of the sulphate of quinine lately imported from abroad, more or less of this non-officinal, and, (in my opinion) as compared with quinine, non-efficient substance yclept quinidine; a fact readily accounted for, when it is known that for the last year or two immense quantities of the bark in question, good, bad and indifferent, have been exported from New Grenada, (as well as much from this port that has been rejected,) and purchased by foreign manufacturing chemists, for the purpose, as I have reason to believe, of mixing it with the *true* bark in the manufacture of the sulphate of quinine; hence the hybrid salt now too frequently presented to entry; a practice that, if not speedily abandoned, will ruin, as far as this country is concerned, the formerly well-deserved reputation of more than one of the foreign manufactures of sulphate of quinia I could name. The argument maintained by some of them, that the article is used in their hospitals and found equal to pure quinine, will not answer on this side of the water; it smacks too much of the almighty dollar, even as I must believe (until further advised) at the expense of truth.

This comparatively inert substance, quinidine, is readily detected by using the method adopted by Zimmer, and published in the March number of the Pharmaceutical Journal, (London,) and, as I was happy to see, trans-

ferred to the May number of your valuable Journal. It is a test so perfect, so scientifically practical, and so simple withal, that any one possessing only a moderate share of chemical and analytical acumen can successfully apply it, even though perchance he may not be able to boast of wearing the mantle of the departed Berzelius, or of having been a favorite pupil of Liebig.

The law went into operation at this port on the 12th day of July, 1848, and it is worthy of remark, as a cause of gratulation on the part of the early friends of the measure, that the importation of inferior and worthless qualities of many important drugs and medicines, has since gradually and greatly decreased in quantity. For instance, I rejected during the first seven months of the working of the law 19,989 pounds of Rhubarb root; but I have since rejected only 5,782 pounds, being but a fraction over one-third of the quantity. For the past eighteen months, I have not had occasion to reject a single pound. I rejected during the first nine months, 3,347 pounds of opium; but have since, during a period of more than two years and a half of my administration of the law, as will be seen by the above statement, rejected only 3,164 pounds. For the past thirteen months I have rejected only nine hundred and fifty-two pounds, while I have passed during that period not less than 70,000 pounds. During the first two months of the operation of the law, I rejected 1,414 pounds of gamboge, but have since met with that only which I was ready to pass without any hesitation. During the first nine months I rejected 2,977 pounds of gum myrrh, but all that has since been presented to entry at this port, I have found satisfactory. Thus might I continue, but time and space will not permit. Enough I opine, has been said and shown to satisfy even the most prejudiced and sceptical opponent of this wise measure, that if faithfully and judiciously administered *and seconded with becoming zeal and honesty of purpose by the medical profession, the pharmaceutist and dispensing apothecary*, it is calculated and destined to effect most beneficial and lasting sanitary reforms throughout the length and breadth of our vast and glorious land. In a word, the law has operated thus far remarkably well, considering the hasty manner in which it was framed and passed through Congress. It is in some respects imperfect, as must ever be the case with all new measures of legislation until their utility is tested by practical operation; but these imperfections were, some time since, brought to the attention of the Secretary of the Treasury, who, with his accustomed promptitude, soon after instructed me to report to the Department such modifications and suggestions as my experience in the administration of the law should dictate as most desirable, practicable and judicious; and, notwithstanding this important and responsible trust has necessarily been made the subject of the few occasional leisure moments I could from time to time command, apart from other official duties, it is nearly completed, and, in a manner too, as I have reason to believe, that will render the law, when amended as

proposed, satisfactory to all honorable dealers, importers, owners, and consignees, and, at the same time, do away with the not unreasonable objections entertained by our marine insurance companies; while its efficiency, instead of being in any manner impaired by the amendments, will be more perfectly guarded and essentially strengthened. The particulars and details connected with this duty I must defer to another time; but I must be permitted before closing this communication to say, that to the present able and distinguished head of the Treasury Department, Hon. Thomas Corwin, is due a debt of gratitude, from all true friends of this important measure, not easily cancelled. Soon after he was called to take upon himself the responsibilities of one of the most important, and by far the most arduous offices under the general government, the downward and fatal tendency of a maladministration of the law was brought to his notice; when, rising *above all minor considerations*, he rescued it from impending danger, and placed it upon what he deemed a safe basis; and has since, on all occasions, lent a willing ear to every suggestion calculated to render it more perfect, to add to its efficiency, or perpetuate its usefulness. A noble example truly, and one well worthy of the man.

To conclude, I beg to say, that although I have not the honor of belonging to any Pharmaceutical Association, I nevertheless take great interest in everything calculated to advance the good cause and noble calling in which you have so long been engaged; and I hope the day is not far distant when every city and town of importance throughout this wide extended country, will be favored with an organization of the kind, radiating from a *National* Pharmaceutical Association as a common center. It would be of vast benefit to the community at large, as well as eminently useful to the medical profession; for as all must admit, it is of the most vital importance to the success of the physician, that his remedial agents are properly prepared by a well-bred and perfectly educated chemist and pharmaceutist; and I may add my conviction, that medical and pharmaceutical chemistry, a part of medical education that has thus far been most unpardonably neglected, should be universally and efficiently taught in our Schools of Medicine.

I am, dear Sir,
Very respectfully, your obd't. serv't.,
M. J. Bailey, M. D.,
Special Examiner of Drugs, Medicines, Chemical Medicinal Preparations, &c.

Proceedings of the National Pharmaceutical Convention.

The Effects of Pulverization on the Properties of Bodies.—Hitherto, pharmaceutists have considered pulverization as simply a change of form in bodies, the particles of the pulverized body being considered as so many divided portions of the entire mass, without having undergone any change of property, but merely one of change of form. M. Dorvault thinks that there are many substances in which the operation of pulverization effects

some actual change in their chemical characters and therapeutical properties. At present he can adduce two or three decided examples, which lead him to form this opinion; these are—common sugar, gum arabic, and arsenic, or arsenious acid. We all know that sugar, when pulverized, becomes less soluble in water, and less sweet to the taste. He asks, Is this to be referred to an altered electrical condition of the sugar, as the phosphorescence developed during the act of pulverization in the dark would lead us to suspect? The next article mentioned, gum arabic, when powdered, has neither the same taste nor the same degree of solubility as when in the entire state; and he states that the effect of pulverization upon white arsenic, or arsenious acid, is so great, as regards its solubility in water, that whilst a given quantity of water may be made to dissolve forty parts in the vitreous state, the same quantity of water can be made to dissolve only fourteen parts after pulverization.—*Annals of Pharmacy, May*, 1852.

Electricity.—Professor Faraday has instituted a series of experiments, with a view to determine the quantity of electricity connected with the atoms or particles of matter. He says, it is wonderful to observe how small a quantity of a compound body is capable of being decomposed by a certain quantity of electricity. "One grain of water will require for decomposition, an electric current equal to a very powerful flash of lightning." The chemical action of a grain of water upon four grains of zinc, can evolve electricity equal in quantity to that of a powerful thunderstorm; and he states, that from his experiments it would appear, that 800,000 such charges of the Leyden battery would be necessary to supply electricity sufficient to decompose a single grain of water. The Leyden battery of which he speaks consists of fifteen jars, containing 3510 square inches, or about twenty-four and a half square feet of coated glass, charged by thirty turns of a plate electrical machine, the plate being fifty inches in diameter, and of immense power, giving ten or twelve sparks an inch long for each revolution. The author of a paper on this subject in the Philosophical Magazine, remarks, that "the estimate that 800,000 discharges of the battery of fifteen jars, equal to a powerful flash of lightning, would be necessary to resolve a single grain of water into its elements, is certainly astounding, when it is recollected that, according to Professor Faraday, the quantity of electricity that decomposes a body, is the equivalent quantity of electricity that had previously held the elements of that body in combination; for he, with Davy and others, conceives that electricity and chemical affinity are identical powers. Hence in one grain, that is, one drop of water, there must be naturally existing, and constituting the affinity between its oxygen and hydrogen, no less a quantity of electricity, than 800,000 charges of a battery containing 3510 square inches of coated glass, or the equivalent of a very powerful flash of lightning. If this quantity of electricity were converted into one spark, it would be 4166 miles in length, taking Professor

Faraday's mean estimate of one charge of his battery as the basis of calculation."—*Ibid.*

Artificial Formation of Minerals.—M. Becquerel has recently made some valuable observations on the artificial formation of minerals by electro-chemical action. In detailing his experiments, he states that sulphuret of lead was made to act upon a saturated solution of sulphate of copper and of chloride of sodium, diluted with an equal volume of distilled water, with a view of obtaining compounds of lead, analogous to the compounds of the same metal existing in a natural state. There were found, either upon the pieces of sulphuret of lead, or at the bottom, or in the partitions of the vessels—

1. Chloride of sodium, in cubes, cubic octohedrons, and even octohedrons, of great transparency, and very definite in form.
2. Chloride of lead, in needles and cubes, slightly yellowish, and very perfect in form.
3. Sulphate of lead, in cuneiform octohedrons, precisely resembling in form the crystallized sulphate of lead from Anglesey.
4. Chlorosulphate, in needles.
5. Basic chloride, in microscopic crystals.
6. Sulphuret of copper, black in color, without any appearance of crystallization. In some of the vessels there were formed only chloride and chlorosulphate of lead; in others, chloride and sulphate; which depended, no doubt, upon the proportions of the sulphate of copper and of chloride of sodium, and the density of the solutions. A voltaic couple, formed of a piece of galena surrounded by a platinum wire, placed in a saturated solution of common salt and sulphate of copper, diluted with three volumes of water, gave rise to the formation of a considerable quantity of crystallized chloride of lead, in cubes, without any other product; they were similarly deposited, though a little larger, upon a fragment of malachite which was placed in the solution. He supposes that similar reactions to these may occasionally take place on a large scale throughout nature, causing the natural formation of some minerals.—*Ibid.*

Solubility of Common Salt.—It has been heretofore an established law, that pure chloride of sodium is equally soluble in both hot and cold water. Fehling, who has recently reinvestigated this subject, arrives at the conclusion, that it is more soluble in boiling than in cold water. He finds that one hundred parts of a saturated solution of salt at 54° Fahr. contains 26.423 parts of chloride of sodium, consequently one hundred parts of water will dissolve 35,91 parts of salt at that temperature; and that one hundred parts of a boiling saturated solution of salt contains 28.53 parts of chloride of sodium, therefore one hundred parts of boiling water dissolves 39.92 parts of chloride of sodium.—*Ibid, March* 1852, *from Annalen der Chemie und Pharmacie.*

A Test for Alcohol in Essential Oils.—J. J. Bernoulli recommends for this purpose acetate of potash. When to an ethereal oil, contaminated with alcohol, dry acetate of potash is added, this salt dissolves in the alcohol, and forms a solution from which the volatile oil separates. If the oil be free from alcohol, this salt remains dry therein.

Wittstein, who speaks highly of this test, has suggested the following method of applying it as the best:—In a dry test tube, about half an inch in diameter, and five or six inches long, put not more than eight grains of powdered dry acetate of potash; then fill the tube two-thirds full with the essential oil to be examined. The contents of the tube must be well stirred with a glass rod, taking care not to allow the salt to rise above the oil; afterwards set aside for a short time. If the salt be found at the bottom of the tube dry, it is evident that the oil contains no spirit. Oftentimes, instead of the dry salt, beneath the oil is found a clear syrupy fluid, which is a solution of the salt in the spirit, with which the oil was mixed. When the oil contains only a little spirit, a small portion of the solid salt will be found under the syrupy solution. Many essential oils frequently contain a trace of water, which does not materially interfere with this test, because, although the acetate of potash becomes moist thereby, it still retains its pulverulent form.

A still more certain result may be obtained by distillation in a water bath. All the essential oils which have a higher boiling point than spirit, remain in the retort, whilst the spirit passes into the receiver with only a trace of the oil, where the alcohol may be recognised by the smell and taste. Should, however, a doubt exist, add to the distillate a little acetate of potash and strong sulphuric acid, and heat the mixture in a test tube to the boiling point, when the characteristic odor of acetic ether will be manifest, if any alcohol be present.—*Ibid.*

Saponaceous Cream of Almonds.—(*Crême d'Amandes amerés.*)—The preparation sold under this name is a potash soft soap, made with lard and perfumed with essential oil of almonds. It has a beautiful pearly appearance, and makes an excellent lather with a brush, and has met with an extensive demand as a shaving soap, especially in Paris. It is prepared thus:—Take of fine clarified lard, 7 lbs; of potash ley, containing about 26 per cent. of caustic potash, 3 lbs. 12 oz.; of rectified spirit, 2 oz.; of essential oil of almonds, 2 drachms. Melt the lard in a porcelain vessel, by a salt-water bath or a steam heat under 15 lbs. pressure, then run in the ley *very slowly*, agitating continually from right to left during the whole time; when about half the ley is run in, the mixture begins to curdle; it will, however, finally become so firm and compact that it cannot be stirred, if the operation is successful. The soap is now finished, but is not pearly; it will, however, assume that appearance by long trituration in a mortar, gradually adding the alcohol, in which is previously dissolved the perfume. —*Annals of Pharmacy, April*, 1852.

Observations on the Different Orange Flower Waters found in Commerce. By M. LEGUAY.—There are three sorts of orange flower waters found in commerce. The first is distilled from the flowers; the second is made with distilled water and neroli; and the third is distilled from the leaves, the stems, and the young unripe fruit of the orange tree. The first may be easily distinguished by the addition of a few drops of sulphuric acid to some of the water in a tube, a fine rose color is almost immediately produced. The second also gives the same color when it is freshly prepared; but after a certain time, two or three months at the farthest, this color is no longer produced, and the aroma disappears completely. The third is not discolored by the addition of the sulphuric acid; it has scarcely any odor, and that rather an odor of the lemon plant than of orange flowers.—*Ibid, from Bulletin de la Société Pharmaceutique d'Indre et Loire.*

Nitric Acid in Rain Water.—M. BARRAL has lately found, after very careful and well-conducted experiments, which stretched over more than six months, that the rain water collected at Paris contains appreciable quantities of nitric acid. This discovery has been confirmed by a committee appointed by the Academy of Sciences, and composed of Messrs. Dumas, Boussingault, Gasparin, Regnalt, and Arago. It is supposed that the presence of nitric acid in rain water will explain certain hitherto ill-understood telluric phenomena, and lead to some practical applications. It is due to Dr. Bence Jones, of St. George's Hospital, to say, that he had already pointed out the fact, in the *Philosophical Transactions* of 1851, as to the rain water collected at Kingston (Surrey,) Melburg (Dorset,) the neighborhood of Cork, and in London. Dr. Bence Jones was herein in opposition with Liebig, who has denied that rain water contained appreciable quantities of nitric acid.—*London Lancet, May* 1, 1852.

Extractum Scillæ Aceticum. By Mr. F. D. NIBLETT.—Having had frequent complaints from Medical men as to their "inability to preserve the *Pulv. Scillæ* any length of time in a fit state for dispensing," I was induced to turn my attention to the preparation of an article that should supply its place, and be at all times readily dispensed. I have done so in the shape of an *Acetic Extract*, and having introduced it to several gentlemen, who have all spoken highly of it, as possessing all the characteristics of, and decidedly preferable to, the *powder*, with which they have hitherto had so much trouble, I have ventured to forward you the *modus operandi:*

Extractum Scillæ Aceticum.

℞ Rad. Scillæ lbj.
Acid. Acetic. f ℥iij.
Aq. Distil. Oj.

Digest with a gentle heat for forty-eight hours, express by strong pres-

sure, and *without* straining evaporate to a proper consistence. One grain is about equal to three of the powder.—*Pharm. Jour. September*, 1852.

Hospital Sulphate of Quinine.—Mr. Edward Herring has introduced a preparation under this name, consisting of disulphate of quinine only partially purified. In its medicinal properties it is said to differ but little from the ordinary disulphate. It has a brownish color, and of course is not admissable as a substitute for disulphate of quinine in general dispensing, but it has been tried in hospitals and dispensaries, and by some medical men who dispense their own medicines. The final purification and decolorization of the salt being attended with some expense, the manufacturer is enabled to offer it in a partially purified state at a considerable reduction from the prices at which it can be sold when purified in the usual way. The amount of impurity must be ascertained before its real value can be estimated. It may be a question whether the recognition of a preparation so imperfectly purified might not open the door to some abuse.—*Lond. Pharm. Journ.*, Nov. 1852.

Felt and Chamois Leather Plasters.—Messrs. Wright and Ewing have introduced a material which is likely to be valuable to patients requiring plasters for bad sores. It may also be useful for other purposes. It consists of a felt, more soft in its texture than that which is used for hats, and is covered on one or both sides with chamois leather. The plaster is either spread on the leather or on the felt. In either case, it appears to be an application likely to prove serviceable. It may be used for removing pressure from any particular spot, by cutting a hole in the plaster at the part affected.—*Ibid.*

On Litmus. By Dr. J. Muller, apothecary at Berlin.—According to Dr. Müller, the inferior sorts only of litmus contain a mechanical admixture of indigo. Whilst moist, the litmus is introduced into a swing-machine [*Schwungmaschine*] containing finely powdered indigo, and worked until it has assumed an uniform color. But neither Prussian blue nor cobalt is employed.

In the manufacture of litmus all kinds of lichens, even indigenous sorts, are employed; but the best quality is prepared in Holland exclusively from Roccella tinctoria. Inferior sorts, however, are made from species of Variolaria, Lecanora, and Parmelia. These are finely ground and placed in contact with nitrogenous substances, especially urine, at a certain temperature. The first product is a red coloring matter, which is formed slowly, if sufficient attention be not paid to the process, and equally high temperature maintained. As soon as this stage has been attained, some potashes are added, not American, Russian or Illyrian, but a German sort, which contains a peculiar constituent and cannot be manufactured in Holland. Upon this constituent, and the addition of Carrara marble, rests chiefly the secret of obtaining a good litmus.—*Ibid*, from *Archiv. de Pharm.*

Minutes of the College.

Stated Meeting of the Philadelphia College of Pharmacy held at their Hall, Ninth mo. 27th, 1852. Present 19 members.

Daniel B. Smith, President, in the chair.

The minutes of the last meeting were read and adopted.

The minutes of the Board of Trustees were read, by which it appears that Alfred A. B. Durand has been elected a resident member since the last meeting; and that Jackson B. Wood of Richmond, Va., is unanimously recommended by the Board for Associate membership.

On motion the College proceeded to ballot for his election, H. W. Worthington and Wm. J. Jenks acting as tellers. They reported Jackson B. Wood unanimously elected an Associate member.

A communication from Elias Durand, informing that after forty years devoted to pharmaceutical pursuits he had withdrawn from the profession, and tendering his resignation of membership in the College, was read and accepted.

On motion of five members Elias Durand was proposed as a candidate for honorary membership in the College.

The question being taken on a motion to suspend the rules so as to proceed at once to an election, and resulting in the affirmative, the election was proceeded with, whereon Elias Durand was unanimously elected an Honorary member.

The semi-annual election for eight members of the Board of Trustees was held, H. W. Worthington and Wm. J. Jenks acting as tellers. It resulted in the choice of the following Trustees:

Thomas P. James,	William J. Jenks,
Jacob L. Smith,	Joseph Trimble,
Alfred B. Taylor,	Charles Bullock,
Dr. J. Harris,	Henry C. Blair.

Dillwyn Parrish, *Secretary.*

Editorial Department.

THE AMERICAN JOURNAL OF PHARMACY.—Our subscribers will perceive that with the twenty fifth volume we commence a new series. For some time past the Publishing Committee have had under consideration the propriety of enlarging the Journal, and have determined in future to issue six numbers annually, instead of four, in January, March, May, July, September and November. The size of the numbers will be the same, and for the present the arrangement of the matter will be similar to that in the last volume. The volume will therefore embrace 576 pages instead of 384 as heretofore. An important improvement will be found in locating the table of contents on the first page of the cover, by which attention is at once attracted to the articles within. The reasons for commencing a new series are these: Three volumes of the old and second series are out of print; the size of the volume will be much enlarged; new subscribers can form a regularly bound set of the third series, whilst the old subscribers can continue the numbering of the volumes as before with the affix "3d series." The greater frequency of publication will be esteemed a decided improvement, by keeping the readers posted up with pharmaceutical information and discoveries.

To meet the increased expense attending these changes the Committee have found it necessary to make the subscription price *three* dollars instead of two dollars and a half. They have also extended the advertising sheet, which now affords a more desirable medium for advertisers, and to which our readers are referred.

THE AMERICAN PHARMACEUTICAL ASSOCIATION.—In another part of this number a full account of the proceedings of the National Pharmaceutical Convention, will be found, together with a copy of the Constitution and Code of Ethics of the new Association. The enterprise is fairly before the Pharmaceutists of the United States, and merits their serious consideration, candid expression, and earnest support. The Colleges of Pharmacy through their Delegates have done well in taking the initiative in this movement, and thus putting the stamp of authority on its birth and infancy, and we trust they will foster it during its early youth, until the stamina of manhood are developed, and its members become strong and firmly knit.

From the nature of the call, the Convention was not numerously attended, and the time proved to be unfavorable for many at a distance who felt a deep interest. Much unanimity and good feeling was manifested during the sittings, and those best qualified to judge arrived at the conclusion, that the Convention, by organizing a national association, and by submitting

some of the leading subjects of general interest to the profession, to the action of Committees, did more wisely, than, by attempting to urge any ultra course of reform, they would have done.

The brief period allotted to the action of committees in a primary convention necessarily deprives them of the deliberation so necessary in the maturing of a constitution and code of ethics. These instruments are therefore manifestly imperfect in some of their details, and not comprehensive enough to embrace many points that materially affect the welfare of the pharmaceutical profession. To adapt them to the real wants of the latter will be the work of future meetings, when larger numbers shall be convened, and the views of pharmaceutists at large shall become understood. We have an earnest faith in the ultimate success of the Association and would fain infuse it into our brethren everywhere, until the acts of the American Pharmaceutical Association shall be marked with a dignity and influence that will be felt and respected throughout our widely spread borders.

Committees.—The following special Committees were appointed by the Convention, which we bring forward in this connection, that all apothecaries and druggists who have information calculated to promote the objects of their appointment, may be induced to present it.

On the subject of the Inspection of Drugs, *Alfred B. Taylor* of Philadelphia, *John Meakim* of New York, *Joseph Burnett* of Boston and *Dr. David Stewart* (Drug Examiner) of Baltimore.

On the Sale of Poisons as conducted by apothecaries, druggists and others, with the view of suggesting some useful reform, *William Procter, Jr.* of Philadelphia, *Dr. Samuel R. Philbrick* of Boston, *Alexander Duval* of Richmond, and *George D. Coggeshall* of New York.

On the subject of Secret or Quack Medicines, *Daniel B. Smith* of Philadelphia, *Charles A. Smith* of Cincinnati, *Henry F. Fish* of Waterbury, Connecticut.

And on the Resolution relative to Pharmaceutical statistics, the Executive Committee of the Convention, Messrs. Procter, Coggeshall and Burnett.

Medical Examiner vs. Foreign Quackeries.—The editorial columns of the Medical Examiner for October (1852) embrace an article entitled "Foreign Quackeries and the Drug Inspection Law," in which the writer animadverts on the course of certain gentlemen, who, when asked their opinion as to whether the Drug Law excluded foreign secret medicines, gave it in the negative; and expresses his regret that they should so far forget themselves as to be the means of flooding the land, and poisoning the people with vile foreign quackeries, and extracting from them untold sums of gold in return! The object of the writer, who is anonymous, appears to be to throw obloquy on the College of Pharmacy, because the signers of the document happened to be members of that Institution; and to praise

the Drug Examiner, whose course he considers "honest, manly and consistent," and who has long been unfriendly to the College. The following is the obnoxious document:

"The undersigned are of the opinion that the Law in reference to adulterated drugs, medicines and medicinal preparations, was not designed to exclude secret medicines of foreign manufacture, provided they were made by the party and at the place specified on the label, and that therefore, if the inspector believes that such preparations are what they purport to be, and not spurious, he is bound to pass them.

"At the same time we would have it expressly understood that our private opinions are decidedly adverse to all secret medicines, whether of foreign or domestic origin, and in giving the above opinion we do it entirely in justice to our sense of the intended meaning of the law, and not from a desire to favor the introduction of such medicines."

Now, it is evident that the writer of the article in question does not understand the Drug Law itself, nor is he familiar with its working; and under the influence of excited feeling has endeavored to wound the character of men who have been and are consistent opponents of quackery.

The facts of the case are succinctly these: Mr. Charles D. Knight, well known as the agent for Tilden & Co.'s Extracts, accepted the agency for this city of a foreign secret medicine—agencies for which had previously been established in New York and Boston. Mr. K.'s invoice being delayed, he had been selling the medicines obtained from the N. York agent, for some time, when his own consignment arrived in port. On application to the Drug Examiner, after some delay, he was informed that the *medicines were not safe*, that their composition was not known, and that therefore he refused to pass them! Mr. Knight applied to the Collector, who, not clearly understanding the law, advised him to get the opinion of pharmaceutists as to its construction and intentions. The object of getting the opinion, on the part of the importer, was to prevent the delay of reference to the authorities at Washington, and it was given, as a simple matter of justice, without the slightest sympathy for quackery as the document itself will show. The signers were familiar with the law, they knew that various preparations made by secret formulæ were constantly imported under its sanction, some of which were patronized by physicians, and that the very medicines in question had been passed months before by the Inspector at New York, who, perhaps, of all persons connected with the LAW is best able to judge of its intentions, having had so prominent an influence in its adoption. (See Amer. Jour. Pharm., vol. XX., page 206.) It turned out after all that the matter was referred to the Secretary of the Treasury, who reversed the judgment of the Examiner.

Now, as to the course pursued by the Inspector, we believe he exceeded his duty as sworn to carry out the *Law*, and his opinion that the medicines *were not safe*, in the absence of all attempts at analysis, is, to say the least rather arrogant. The law is too lengthy to quote in full, but may be found

at page 292, vol. XX. of this Journal. There is nothing said in it about quack medicines. Section 1st says:

"All drugs", &c. &c, "shall be examined and appraised, as well in reference to their quality, purity, and fitness for medical purposes, as to their value and identity specified in the invoice."

And section 2d:

"That all medicinal preparations, whether chemical or otherwise, usually imported with the name of the manufacturer, shall have the true name of the manufacturer and the place where they are prepared permanently and legibly affixed to each parcel by stamp or otherwise; and all medicinal preparations imported without such names affixed as aforesaid shall be adjudged to be forfeited."

And section 3d:

"That if on examination any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found in the opinion of the examiner to be so far adulterated or in any manner deteriorated so as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French and German Pharmacopœias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made on the invoice, and the articles so noted shall not pass the Custom House, unless," &c.

Now, did the inspector try the medicines in question by the last section? Did he find them spurious, or deteriorated, or adulterated, any more than the Harlem Oil and German pills and other quackeries, which no doubt he has passed without a question? No, they were not in the category of examinable drugs in the sense intended by section 3d of the law, but came under the range of patented medicines put up in stamped and labelled packages; and until the law is altered so as to exclude this class of medicines, by a clearly expressed clause, (and the signers of the certificate would cheerfully advocate it, if it can be constitutionally done,) we believe it will remain the duty of the examiners to pass them.

A consistent and well known course of twenty years should acquit us of harboring any favors for quackery, foreign or domestic; albeit that we may do an act of justice to the agent of a quack; and whilst the *personal expediency* of giving the opinion in this instance, in view of the course since pursued by the Inspector in reference to the document, may be questioned, its *justness* cannot be disproved.

American Medical Association vs. Colleges of Dentistry and Pharmacy.—We have received a copy of the report of the committee on amendments to the Constitution, etc. of the American Medical Association, to which the resolution of Prof. George B. Wood was referred, which is as follows:

"*Resolved*, That colleges exclusively of dentistry and pharmacy are not recognised, by this Association, as among the bodies authorised to send delegates to its meetings."

The question for the committee to decide was, whether the constitution of the association was so worded as to open the door of admission to delegates from dental and pharmaceutical colleges, and they arrive at the conclu-

sion that it does not admit them either by its letter or spirit, and we think very properly. The interests of physicians and pharmaceutists are sufficiently distinct to make it good policy to avoid any professional amalgamation.

This question arose from the fact that at the meeting of the Association at Charleston, in 1851, a delegate from the New York College of Pharmacy presented himself, who being a graduate of medicine was admitted by courtesy, at the same time the right of the society delegating him was denied. The whole affair arose out of a misunderstanding of the proper mode of proceeding by the New York College of Pharmacy, who, in sending Dr. Guthrie, had no wish to interfere with the right of the association or break in on its order, Dr. G. going there solely to call the attention of the Association to the subject of the drug inspection law; and if he had appeared in that capacity there is no doubt that his mission would have received more attention from the Association. We are glad that Dr. Guthrie's claims were disputed, because the subject, being thrown back on the N. Y. College of Pharmacy, that institution issued a call for a Pharmaceutical Convention in reference to the drug law, out of which has grown the primary organization of the American Pharmaceutical Association.

Augmentation of Pharmaceutists in Paris.—In 1776 there existed about one hundred shops, in 1845 the number had increased to three hundred and fifty-two, and at this time their number is three hundred and ninety-three. The herborists of 1776 numbered 126; at present nearly 450.

Apothecaries Vials for Prescription Use.—Prof. W. E. Horner has called our attention to a defect in the construction of vials, that has long been known and suffered, and which calls loudly for a remedy. We allude to the practice of making vials with very narrow, thick lips, so as to render it next to impossible to drop medicines from them, when more than half full. This is particularly true of the half ounce and ounce vials. When one attempts to use them the liquid passes from the lip to the neck of the vial, and either runs down along the side, or falls in drops of too large a size. If druggists and apothecaries would urge a reform in this matter by the manufacturer, they would greatly abridge the trouble and risk of administering a very numerous class of medicines.

Answers to Correspondents.—*Tetramethylammoniumiodid*, is the German mode of expressing the name of the compound formed when iodide of methyle ($C_2 H_3$, I) is added to trimethylamine ($C_6 H_9$, N). Trimethylamine is an artificial organic base obtained from herring pickle, in which each equivalent of the hydrogen of ammonia is replaced by an equivalent of methyle ($C_2 H_3$) according to the law of substitutions.

Tinctura Rhei Dulcis is made by the following formula, viz: Rhubarb

bruised, ℥viii, Liquorice root bruised, ℥iij, Anise seed bruised, ℥iij, Cardamom seed bruised, ʒiv, Orange peel bruised, ℥j, Diluted alcohol a sufficient quantity to make a gallon of tincture by maceration and displacement.

Antidyne is a substitute for Granville's lotion, suggested by Mr. George Mellor, apothecary of this city, who considers the formula strictly private. It is said to differ from Granville's lotion in not producing vesication.

Unguentum Elemi Compositum, is the old name for Unguentum Elemi, as employed in the London Pharmacopœia of 1824. On the revision of that work in 1836, the terminal adjective was omitted. We presume the old name is employed only by old practitioners, or by those of recent date whose books of reference are antiquated.

A correspondent asks, "Is a physician justifiable in writing a prescription for a preparation not recognized by our Pharmacopœia without giving a formula for it?" and says, "It often happens that a patient has to travel over half the city (or get his apothecary to do so for him) to find one article in a prescription, unless he happens to stumble upon *the particular shop* in which alone the article is kept." In many instances physicians *are* justifiable in prescribing beyond our Pharmacopœia without giving authorities, because a very considerable number of non-officinal medicines are kept in our shops; yet it is much safer for their patients, and convenient for the apothecary to have some indication of the authority on the prescription, as (Lond. Ph.) (Paris Codex) "Dunglison's New Remedies," "Ellis' Formulary," etc. If it is a new preparation introduced by some particular apothecary which the Physician desires to try, let him write the name of the apothecary, on the prescription. This may often happen without the slightest impropriety on the part of either physician or apothecary, when no secrecy is observed by the latter in reference to the composition of the preparation, and the patient or his apothecary may get supplied with it on demand. Every apothecary has a just right to be remunerated for his skill. It is quite different, however, when their is collusion between physician and apothecary, by the use of hieroglyphics by the former, or secret formulæ by the latter. The Code of Ethics of the Philadelphia College of Pharmacy and the joint Report of the County Medical Society and Philadelphia College of Pharmacy, published a year ago in this Journal, set this matter in a clear light.

Materia Medica or Pharmacology and Therapeutics. By WILLIAM TULLY, M. D. Vol. I., No. 1, Nov. 1852; pp. 64. Springfield, Mass.

For some months past it has been announced through several of the medical journals that Dr. Tully, of Springfield, Mass., and formerly of New Haven, was about to publish a work on Materia Medica and Therapeutics. The work is to be published in monthly numbers of 64 pages, at twenty-five cents each, and will probably extend to twenty. Dr. Tully is spoken of as a gentleman qualified, by long experience, and extensive reading and

observation, for the task which he proposes to accomplish, viz: to write a work that, in the language of the *prospectus*, "will be original, having none of the characteristics of a compilation. The field he has explored, the objects he has sought, and the manner of pursuing his inquiries, have been quite different from ordinary writers. His classification differs materially, and is founded upon different principles from any that has preceded it, and will commend itself to any one who will examine it critically and with a view to its practical tendency. It will therefore be a new system essentially, and may justly be entitled a revision of the Materia Medica." Originality is often very desirable in a writer; on the subject of Materia Medica, however, which is made up of the accumulated observations of centuries, it is highly important that all well ascertained facts, by whomsoever observed, should be duly registered, so as to present a correct view of the present state of the science; and on the score of nomenclature, where a well understood system has been generally adopted by writers, or in a country where a respectable pharmacopœia exists, originality of nomenclatural language is not only an inconvenience, but a positive evil, as leading to confusion of ideas. In looking over the first number of Dr. Tully's work, we are struck with many novelties in names, as *Chlorohydrargyrous acid* and *Dichlorid* of mercury, for calomel; *Disoxyd*, for black oxide of mercury; *Proto* nitrate of silver; *Hydrite* of *Potassa* for the hydrate; *Cyanid* of *hydrogen* for hydrocyanic acid; *Chlorite* for *chlorate* of potassa, &c. As the number before us is almost wholly devoted to the *modus operandi* of medicines, a subject to be discussed more appropriately by medical journalists, we will defer a critical notice of the work until it has progressed further, hoping that the author in the part of his book devoted to materia medica and the preparations, will not depart so far from the generally received nomenclature as the few instances, in the present number, where he has had to employ the names of medicines, lead us to think he intends. In discussing the operation of medicines on the system, it is evident that Dr. Tully has thought much and experimented much. The style of the author is peculiar, and his language exhibits many words peculiar to his pages. The typography is good, and the paper and general getting-up creditable to the publishers. We shall look with interest for the coming numbers, and in accordance with the wishes of the publishers, will *exchange* with pleasure.

A Memoir on the Life and Character of JAMES B. ROGERS, M. D., *Professor of Chemistry in the University of Pennsylvania.* By JOSEPH CARSON, M. D. October, 1852.

Dr. Carson has acquitted himself well in the preparation of this modest and truthful memento of the life and character of his lamented colleague.

The subject of this memoir was born in the city of Philadelphia, February 22d, 1803. His father, Dr. Patrick Kerr Rogers, emigrated to this

country from the north of Ireland in 1791, and, after several years spent in literary engagements, he graduated in the medical department of the University of Pennsylvania in 1802. Dr. Rogers died in 1828, at Williamsburg, Virginia, whilst in occupancy of the Professorship of Natural Philosophy and Chemistry, in William and Mary College, which he had filled since 1819, leaving four sons, all of whom have distinguished themselves as teachers of science.

Dr. James B. Rogers graduated at the University of Maryland in 1822, and after practising medicine in Harford County, a few miles from Baltimore, for a few years, he returned to that city with the view of relinquishing the practice of his profession, and soon after engaged as the scientific superintendent of the chemical works of Messrs. Tyson and Ellicott, an occupation more in harmony with his tastes and wishes. He subsequently left this post to accept the chair of Chemistry in the Washington Medical College, at Baltimore, in which he laid the foundation of his reputation as a teacher of his favorite science. In 1830 Dr. Rogers married Rachel Smith, of Baltimore, who with two sons and a daughter survive him. In 1835, when the Cincinnati College was organized by Dr. Drake, the services of Dr. Rogers were solicited for the chemical department, a situation which he honorably filled for four years. During this time he assisted his brother William in the geological survey of Virginia, and subsequently his brother Henry in that of the State of Pennsylvania. In 1839 he removed to Philadelphia, where he continued to reside, a part of the time under those depressing difficulties that too often beset the deserving votary of science. As a lecturer in the Philadelphia Medical Institute, the Franklin Institute, and the Franklin Medical College, he occupied parts of the time till 1847, when at last a fitting field for the exertion of his talents was afforded him, by his appointment to the Professorship of Chemistry in the University of Pennsylvania, rendered vacant by the resignation of Professor Hare. His happy efforts as a teacher in this scene of his last labors are familiar to very many; and his lucid exposition of the difficulties of his science, and the apt illustration both by language and experiment which marked his discourses, have gained for the chemical chair of the University a scientific reputation, second to none in our country. His constitution, never robust, was shattered whilst engaged in the deleterious atmosphere of the manufacturing laboratory; for several years before his death his physical powers gave evidence of gradual decay, until on the 15th of June, 1852, he finally succumbed to a protracted attack of albuminaria, attended by much suffering.

It was our good fortune to have known Prof. Rogers during the latter years of his life, and to be profited by his instruction as a teacher, and his advice as a friend. Ever ready to communicate knowledge, he took equal pleasure in helping the student over the roughnesses of his journey, or in lending his compeers the aid of his knowledge and skill.

Transactions of the Medical Society of the State of Pennsylvania at its Annual Session, held in Philadelphia, May, 1852. Vol. II. Published by the Society. pp. 146, octavo. Philadelphia, 1852.

Transactions of the Medical Association of the State of Missouri at its Second Annual Meeting, St. Louis, April 19th, 20th, 21st, 1852. Vol. II. pp. 116. St, Louis. 1852.

Transactions of the Annual Meeting of the Medical Society of the State of Georgia, held in the City of Augusta, April, 1852.

The publications above noted, with others of the same nature, are results of the general organization of the medical profession in the United States, reacting on the local societies, exciting in them an interest not before observed, and producing a series of observations or medical statistics, the local peculiarities of disease, the topography of the counties, and much other information interesting to the medical profession. We hope like effects may result from the organization of pharmaceutists which is just commencing. A spark of the proper spirit has been elicited from New England, (see page 22,) and we trust other sections will not be wanting in regard for the cause of reform.

Jean Joseph Welter, the inventor of the instrument called "Welter's Safety Tube," and of other useful chemical apparatus, died on the 8th of July, at Paris, in the 89th year of his age. He was the friend and co-laborer of Gay Lussac, and a corresponding member of the Chemical Section of the French Institute.

Dr. Thomas Thomson, Regius Professor of Chemistry in the University of Glasgow, died on the 2d of July, at the age of seventy-nine.

Dr. Thomson was the youngest son of John Thomson of Crieff, (Scotland.) He received a thorough classical education at the University of St. Andrews. In his twenty-third year a taste for chemical science was awakened by his attendance on the lectures of the celebrated Dr. Black, and about five years after, in 1800, he commenced lecturing on chemistry, which he continued during forty-six years. His system of chemistry first appeared as a separate work in 1802, having previously been published in the Encyclopedia Britannica. He has the reputation of having first used symbols to express chemical composition, and was one of the earliest supporters of Dalton's Atomic Theory. He lectured in Edinburg till 1811, conducted the "Annals of Philosophy" at London from 1813 to 1822, and lectured in the University of Glasgow from 1817 to 1846. He is the author of various works, and among them a *History of Chemistry*, a *History of the Royal Society*, and *Outlines of Mineralogy and Geology*. Dr. Thomson married in 1816, left a son, Dr. T. Thomson, of the Bengal army, and a daughter married to his nephew and successor, Prof. R. D. Thomson.

M. Dizé, the celebrated co-discoverer of the process for artificial sal sodæ, died in August last, in the 88th year of his age. He was born at Aire, in the department of Landes, in 1764. He went to Paris at an early age with a letter to M. Darcet, and became, some time after, his chief laboratory assistant. For twenty years his name was associated with that of Dublanc in the preparation of artificial soda, a discovery from which France now receives a revenue of twenty millions of francs, and the world a benefit not appreciated in its vast extent. M. Dizé organized the Ecole Militaire, and the Pharmacie Centrale des Armées, during the revolution. He discovered new processes for refining the precious metals, and ceased not until his death to take a lively interest in the progress of the sciences. He was a member of the National Academy of Medicine and of the Société d'encouragement. M. Boudet has recently published a long memoir in the Journal de Pharmacie, (Aout 1852,) in which he has done full justice to the claims of M. Dizé as a discoverer.

CLASS OF THE PHILADELPHIA COLLEGE OF PHARMACY,

FOR THE SESSION OF 1852–53.

With a List of the Preceptors and of the Localities from whence the Students come.

MATRICULANTS.	PRECEPTORS.	TOWN OF COUNTY.	STATE.
Bachman, Alexander,	Dr. George Bley, Jr.	Philadelphia,	Pennsylvania.
Barclay, James S.	W. W. & H. Smith,	Logan Co.	Kentucky.
Barr, Thomas H.	Edward Parrish,	Terre Haute,	Indiana.
Bancroft, Joseph W.	John Gilbert & Co.	Philadelphia,	Pennsylvania.
Bannvart, Charles A.	Alfred B. Taylor,		France.
Bickley, Mortimer H.	Dr. J. M. Allen,	Delaware Co.	Pennsylvania.
Bley, John,	John Bley,	Philadelphia,	"
Bond, Samuel S.	A. B. Jardella,	Delaware Co.	"
Bonsall, Charles T.	Bullock & Crenshaw,	Trenton,	New Jersey.
Bassett, William H.	Chas. Ellis & Co.	Wilmington,	Delaware.
Bower, Henry,	G. W. Carpenter & Co.	Philadelphia,	Pennsylvania.
Broughton, John,	Bullock & Crenshaw,	Norfolk,	Virginia.
Buddy, John L.	Linn, Smith & Co.	Philadelphia,	Pennsylvania.
Caldwell, S. W., Jr.	A. H. Yarnall,	"	"
Chenoweth, John T.	Chas. S. Rand,	Cincinnati,	Ohio.
Cheston. Elijah, Jr.	Ambrose Smith,	Bucks Co.	Pennsylvania.
Chapin, William C.	Chas. Ellis & Co.	Philadelphia,	"
Clark, Thomas M.	Wetherill & Brother,	Gloucester Co.	New Jersey.
Conyers, James R.	T. Morris Perot,	Philadelphia,	Pennsylvania.
Corbett, John,		"	"
Cox, Richard S.	Robert C. Brodie,	Broome Co.	New York.
Crooks, Herman H.	John Goodyear,	Philadelphia,	Pennsylvania.
Cummings, Wm. T.	Harris, Hale & &o.	West Philadelphia,	"
Cope, Oliver,	French & Richards,	Philadelphia,	"
Davis, John W.	Wetherill & Brother,	"	"
Dame, John E.	Wm. Hodgson, Jr.	Poughkeepsie,	New York.
Dillard, Robert K.	Dillwyn Parrish,		Alabama.
Downs, Michael J.	Harris, Hale & Co.	Philadelphia,	Pennsylvania.
Eggert, Charles H.	Frederick, L. John,	Bethlehem,	"
Faunce, John H.	Linn, Smith & Co.	Philadelphia Co.	"

Gahan, Edward,	George W. Nebinger,	Dublin,	Ireland.
Gaillard, Edward,	Alfred Tatem,	Philadelphia,	Pennsylvania.
Gerhart, Samuel,	Dr. Geo. Bley, Jr.	"	"
Gordon, James E.	John Bringhurst,	"	"
Gray, Albert,	Wm. B. Smith,	"	"
Griffith, J. Clarkson,	B. J. & J. L. Crew,	Frederick Co.	Virginia.
Gutekunst, Frederick,	Wm. M. Powell,	Germantown,	Pennsylvania.
Guthrie, J. T., Jr.	Harris, Hale & Co.	Philadelphia,	"
Hamilton, John B.	Beates, Baker & Co.	Franklin Co.	"
Hance, Edw. H.	John Gilbert & Co.	Philadelphia,	"
Harper, David,	Daniel S. Jones,	Cumberland Co.	"
Harres, J. Henry,	Dr. W. R. Blakeslee,	Philadelphia,	"
Harris, Levi H.	Geo. W. Vaughan,		Maryland.
Hester, Jacob,	Robert Shoemaker,	Trenton,	New Jersey.
Hinson, Jacob M.	Daniel L. Wecherley,	Philadelphia,	Pennsylvania.
Hooper, John H.	Dr. Chamberlaine,	Cambridge,	Maryland.
Jacoby, D. S.	Breinig & Fronefield,	Montgomery Co.	Pennsylvania.
Jenks, J. Ridgway,	Jenks & Ogden,	Bucks Co.	"
Kennard, Joseph M.	A. W. Parsons,	Wilmington,	Delaware.
Kollock, M. Henry,	Fred. Brown,	Cumberland Co.	New Jersey.
Lancaster, Thomas,	Samuel Simes,	Falls of Schuylkill,	Pennsylvania.
Lemberger, Joseph L.	Dr. J. P. Fitler,	East Hanover,	"
Leuchsenring; H.	Bullock & Crenshaw,	Havana,	Cuba.
Loser, John C.	A. Wiltberger,	Lancaster Co.	Pennsylvania.
Markley, George H.	P. Williamson & Son,	"	"
Merritt, Alfred C.	Browning & Brothers,	Salem,	New Jersey.
Meyers, Edward T.	Edward B. Garrigues,	Columbia,	Pennsylvania.
Miller, William J.	Fred. Klett & Co.	Philadelphia,	"
Mitchell, Alex. H.	Joseph H. Brooks,	Kensington,	"
Morgan, David U.	French & Richards;	Philadelphia,	"
Ogden, Edward H.	Jenks & Ogden,	"	"
Palethorp, John H. Jr.	Thomas P. James,	"	"
Pedrick, Charles W.	Joseph A. M'Makin,	Portsmouth,	Virginia.
Pollard, Oscar,	Bullock & Crenshaw,	Philadelphia,	Pennsylvania.
Pyle, J. Lindley,	Henry C. Blair,	Chester Co.	"
Richard, Adolph,	Dr. Yohe,	Wilkesbarre,	"
Robinson, Edward T.	Bullock & Crenshaw,	Richmond,	Virginia.
Ruch, John H.	Wetherill & Brother,	Pottsville,	Pennsylvania.
Savery, Wm. Jr.	Charles Ellis & Co.	Philadelphia,	"
Sharswood, James,	Harris, Hale & Co.	"	"
Sheaff, John T.	Sam. F. Troth & Co.	Delaware Co.	"
Shrom, Charles F.	Caleb R. Keeney,	Carlisle,	"
Southall, Turner H.		Norfolk,	Virginia.
Steever, Henry C.	Frederick Brown,	Philadelphia,	Pennsylvania.
Stevens, Hennell,	Jos. A. McMakin,	Germantown,	"
Stoeckel, George W.	Thomas E. Pryor,	Philadelphia,	"
Taylor, Samuel,	Smith, Pemberton & Co.		England.
Test, Alfred W.	Richard W. Test,	Camden,	New Jersey.
Thomas, Edwin L.	N. Spencer Thomas,	Philadelphia,	Pennsylvania.
Thomas, Hugh M.	"	"	"
Thomson, William H.	Charles Shivers,	"	"
Uhler, Harry N.	Dr. George Uhler,	"	"
Warder, Wm. Henry,	Paul G. Oliver,	Logan Co.	Kentucky.
Watson, William J.	Wm. Procter, Jr.	Philadelphia,	Pennsylvania.
Walsh, Thomas,	Edward Donnelly,	"	"
Whitecar, Wm. R.	J. W. Simes & Son,	"	"
Willits, Charles H.	Wetherill & Brother,	Burlington,	New Jersey.
Wolf, Wm. H.	Fahnestock & Co.	Philadelphia,	Pennsylvania.
Wyeth, John,	Henry C. Blair,	Harrisburg,	"